Introduction and Dr. Kahn's Background

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 our esteemed colleague, Dr. Joel Kahn.

Dr. Kahn is known as America's heart doctor. And we're going to learn so much from him. We've talked about how mast cell activation affects almost every cell in our body.

When our mast cells are activated, they release many different chemicals, including histamine and heparin and cytokines. And they have effects on all of our different systems.

Today we're going to dive into the cardiovascular system specifically. Thank you so much for joining us today. Dr. Kahn It's a pleasure. And it's actually a very exciting topic.

which, you know, generally in cardiology gets ignored a little bit. The immune system and cardiovascular health, the number one killer of men and women in America.

Yes, absolutely. Well, I just want to give our audience a little bit about you and your expertise and how you got to where you are today. If you could just share a little bit with them before we dive in.

Sure. I've been practicing cardiology almost 35 years. I still do. I have a very active functional medicine cardiology practice in suburban Detroit, but I'm licensed all over, so I do a lot of telemedicine, coast to coast.

I'm a professor at Wayne State University School of Medicine, which is in Detroit and happens to be the biggest school of medicine in America. I've written books.

I've been on Joe Rogan, I've been on the doctor show. I have a podcast called Heart Doc VIP and weekly blogs I write, so I keep myself very busy on top of patient care.

And people say, what's your hobby? My main hobby is reading medical science. Isn't that terrible? I mean, I have a great wife, kids, dogs, I live in a lake, all kinds of wonderful stuff.

I love reading science, so when I'm learning, I'm happy. And, you know, talking about histamine mast cells and the heart. is a topic that know we need to teach.

So here we are. Well, thank. You so much. So let's dive in right away and talk about some of the different ways we see this happening. We know that pots is a specific type of ordered though static intolerance that affects many people who have MCAS So do you think you can help us understand a little bit about this dynamic?

That's occurring with someone who's experiencing this? Yeah. So pots POTS as not everybody is familiar with it. but postural orthostatic tachycardia pretty much a person that not due to dehydration, not due to excessive medication because those can all do it and other, problems of the type.

POTS, Mast Cell Activation, and Tilt Table Testing

But they stand up and maybe not all the time, but some of the time their blood pressure drops, their heart rate excessively speeds up. and they're usually symptomatic.

Dizziness, tachycardia. It could be all the way to blackouts. what you call Syncope. It's a very mysterious disorder. we do a test. Is cardiologists. We may do a variety of tests of a patient presents with near blackout or blackout spells.

I can't tell you how common it is. And I see a whole variety of patients in my integrated practice. Kind of the focus is atherosclerosis. We should talk about, mast cells and atherosclerosis a little later, but, tachycardia, palpitations, racing, dizziness, blackouts is a big part of what I see.

you know, we do an electrocardiogram, we do an echocardiogram, we check the blood pressure, we get routine labs, and then we do a test just to finish up called a tilt table study, where you're usually in a hospital, as an outpatient, and you're on a stretcher, and then you just get tilted up almost straight up for about 45 minutes if you can tolerate it.

But people with pots pots really will like a, old flower, and their, blood pressure drops and their heart rate speeds up and they're symptomatic and sometimes they blackout.

And when we search for, you know, the root cause, as you and I like to both talk about searching for root causes, having a, you know, excessive mast cell activation measured by various histamine levels and such is probably one of the root causes.

And we don't very often, you know, search for it. But you, you got to do advanced bloodwork, including a, relatively unusual test called trip taste trip to see a, enzyme in the blood.

So when you look at people that have the pot syndrome, there's an overlap. Just think of the classic Venn diagram. Two circles. There's going to be an overlap in the middle.

And it may be as much as about 50% of the pots patients seem to have a mast cell activation disorder. That at least gives you something to try and treat, because pot is harder to treat and hard.

You know, it's young people, so it's their whole life that they may deal with it. So when you find someone that has pots, has done some of the testing to see if they have mast cell activation.

So when you find someone that has pot and has done some of the testing to see if they actually have mast cell activation, where do you start with management strategies for a patient like this?

Like this. Well the typical management is avoid what triggers it. Some people know certain exercise, dehydration, various foods. Alcohol might trigger it.

So you try to avoid those and then you stress hydration. And we always have people walking around with, usually some sort of, mineral mix, salt or other minerals in their water bottle and have a water bottle with them all the time.

And for a lot of people, that does it. we've tried everything for pots from what are called beta blockers, which are a type of prescription medicine that prevent the tachycardia.

But they don't always help a variety of psychiatric drugs. SSRI, celexa and others help. Some people don't help the others. Yeah. Extreme cases pacemakers have been placed.

But that's, you know, unusual. So it's unclear if there's really a role for antihistamines and trying to control, you know, the histamine response and mast cell activation, trigger.

But you know, that's something we need to learn about and see if, it'll help more people systematically. Yeah. Thank you. And have a little side question on this topic, because it's something I get asked a lot.

You mentioned electrolytes, and I have a lot of people with cardiovascular issues that ask questions about electrolytes because they're concerned about sodium from different things that they've learned.

So can you just talk to us a little bit about the value of electrolytes? Yeah. I mean, it's not a well defined field. I mean, people aren't buying prescription agents for electrolyte boost.

I mean, you know, there's all kinds of popular agents out there. you know, mineral supplements. You know, when I have patients that have reverse osmosis systems at home like I do, of course, we're talking about maybe women rising their water, but it's usually salt.

And, you know, cardiologists are pretty salt adverse because of the huge number of people with hypertension and very clear evidence that restricting salt can return blood pressure to normal.

But in the case of a 23 year old, I mean, I'm thinking of a young patient of mine about 23 who, had some evidence of pot, and we were scheduling her for a tilt table study.

And unfortunately, she stood up off the toilet and smacked her face on the sink and cut her nose and got stitches. And, you know, she's going to walk around with a lot of salt and other minerals that might be magnesium, potassium.

And, people are aware there are brands out there. Again, it's not a prescription thing. So yeah, young, healthy people with good kidneys. You don't really have to worry too much about it.

I mean, I will have her check her blood pressure a little bit more, but I don't think I'm going to induce high blood pressure in her by having her, you know, razors as maybe as much as five grams a day of sodium, where most of our patients were getting less than 1.5g a day of sodium and sometimes far less than that.

Thank you so much for clearing that up. It's one of those things I think a lot of people hear about, and then they start to have fear around. So thank you for giving us that information surrounding it.

Now let's dive into histamine. Histamine is a known vasodilator which can impact blood pressure and all different things in your body. And I know you said there's some new cutting edge research that has come out that we were talking about.

So I'm excited to dive in here. Yeah. So, you know, I've sadly and everybody knows this, if somebody were to go see a cardiologist, and that's usually for things related to coronary artery disease, there's very few questions asked about diet should be a standard part.

We know how critical the role of diet is in developing high blood pressure arteries grosses risk of heart attack, risk of stents. But you don't get asked a lot.

Whereas and again, I'm not I'm not bragging. But in my clinic it's one of the major, major, you know, areas of focus is your dietary pattern and what we can do to improve it if it's not spot on.

Electrolytes, Salt, and Hydration for POTS

along with sleep and fitness and stress and then, you know, extensive lab work like functional medicine doctors do. but it turns out that not just diet, you know, not just how many.

And there's going to take some people off in the paleo camp because I'm very much in the plant based camp. But how much red meat and how much eggs and how much cheese and how much saturated fat, and how much processed food and how much added sugar, and all the questions that are critical for general good health, but specifically the new data, that's really exciting.

It's really new is that food allergy? And of course, anytime we say allergy, we're probably bringing up histamine and histamine release from, mast cells and basal fills.

These interesting and still not fully understood cells and make a part of our immune system. But that, excessive histamine from food allergy may be a very important central feature of, cardiovascular disease, actually, and even death.

the study I just tell you quickly, you know, nutrition science is challenge. That's why there's food wars. That's why I just last week debated a cardiac surgeon, and we were on exactly the polar opposite, ends of the spectrum of what to eat breakfast, lunch and dinner.

We had a cordial, hour long conversation. I know I'm right, because I know the science is 99% black base for our patients, but the fact that there's even a need to debate represents how hard it is to do nutrition science.

So the recent study was a little over 4400 people that had very detailed, actually, I think there were more than 5000, as I remember. But, you know, a sizable study, very detailed dietary history.

And then they had follow up. Did they develop people who did not have heart disease? The beginning of all this and this was in the United States. Did they develop heart disease, including dying of heart disease over these studies typically are 10 to 20 years of follow up imperfect.

You don't know if the questionnaire about their diet. At the beginning, the study was, you know, spot on or not, you don't know if people change their diet.

Some of these kind of studies do repeat the food questionnaires over time. So somebody does change your diet. It'll show up. But the bottom line was food allergies, particularly dairy, eggs, peanut and shrimp.

In this particular very recent high profile study, a lot of headlines. I'll say again, dairy and cows milk, dairy, eggs, peanut and shrimp were associated with dying prematurely of, cardiovascular disease.

And there was data that they had an immune allergic reaction to these top four. There were others, but those were the top four dairy eggs, peanut and shrimp.

there was IgG levels to each of them. There were elevated. And the the height of the IgG immunoglobulin level was related to their risk of dying. Now you have to in this study like this, factor out smoking, diabetes, high blood pressure, cholesterol levels and blood sugar levels in the rest.

But within the ability of these very large studies, kind of shocking. you know, data that food allergy should be a question cardiologists are asking about.

Food Allergy, Histamine, and Cardiovascular Risk

It's actually is a question without again, give myself a pat on the back, but it is a question that we go over with patients. I'll just say, two other areas that are really interesting and have a strong relationship because, again, food allergy activation of your mast cells, histamine release.

We know there's histamine receptors throughout the heart throughout the blood vessels. We know that actually mast cells love to be found around blood vessels.

So if mast cells are activated blood vessels are going to be impacted. And that's probably the the Potts connection that we just talked about. But there is an interesting syndrome called red meat allergy.

Or some people know it is alpha gal alpha gal. But it's a very bizarre connection between getting bit by a tick, the Lone star tick, and after your bit by the tick, you have the potential.

Next time you eat red meat or in the future we need red meat, you get a histamine related mast cell. The granulation reaction, and you can get a serious anaphylactic reaction.

And when this was first reported, as far as I remember in Virginia, maybe 15 years ago, they actually identified the people that had red meat allergy, and it was like 24% of all the heart patients seen at a university in Virginia.

I think it was the University of Virginia. UVA cardiology department had antibody evidence of a red meat allergy that

related to how much clogging of the heart arteries.

There were. Unfortunately, that that lone Star tick has now migrated all the way to the Mississippi. So it's about half of the United States, and it's probably going to make it, to the West Coast just by transmission.

It's not, you know, it's not a Lyme disease. It's a different tick, but it's out there, and quite, quite bizarre, you know, reaction. But it's a real deal.

And the other one I just want to bring out, because these aren't talked about much, and I'm not trying to tell people what you have to eat or don't have to eat, but, you know, there is a chemical in the meat of animals, particularly red meat of animals called nu 5GC and if everybody listening right now raises your hand and said, I knew all about new IGC, I don't think we get a lot of hands up and EU five g eat a chemical.

It's not in the human body. In the human body. We got a variation called nu five AC and they call I think I call glycol c allergens. you know, a name that doesn't come up a lot in coffee conversation, but it turns out because the form of this chemical is in animals is different than in humans, and particularly in red meat, we can form antibodies to it, and we can have an immune reaction, and we can have a mass of reaction and we can have histamine release.

And there's at least some data that, in both mice in research and in humans, that red meat may cause inflammation and vascular damage in blood vessels.

And that kind of initiates atherosclerosis. So it's pretty clear in a mouse model that happens. And if you take the new five g, C, usually in red meat out and put in new five AC, there's no histamine release mass l d granulation allergic reaction.

And if you, keep the standard red meat new 5GC even in a mouse, they'll cross react. But, in human we don't have that option. We just got to pick and choose what we're eating carefully and the quantity of what we're eating and the quality of what we're eating.

Although I'm not sure quality matters in this case because it's just a chemical that's different. It shouldn't surprise you that not everything is, you know, immunologically the same in animals versus humans.

So that's kind of, you know, the food allergy update related to atherosclerosis. And, that's, you know, is set aside the tachycardia syndromes that you brought up at the beginning of this conversation.

Wow. That's all very enlightening. And I do have a question about the study because it's, it's an I g e antibody that you're talking about, which is a true allergy.

So with a lot of people who have that wow. That's really enlightening. I do have a question about the study because it is an IG antibody which is a true allergy.

And so a lot of people I know that have true allergies are told to avoid the food. So it sounds like these people might actually be eating foods that they do have an allergy to.

So I'm just questioning I'm wondering if the allergy just wasn't severe enough that they knew they were allergic to it, or if they were still eating foods that they have allergies to.

Yeah, it's a good question. I know you know the data. I read this study and it isn't clear this was a database. They, you know, they had the blood, they had done food allergy panels, you know, obviously probably in your clinic and a little bit in my clinic.

Food allergy panels are pretty common. but in general, they're not, but in this particular 5000 plus research database, they had that, you know, whether, what happened at the clinical level 20 years ago, did somebody tell Bob and Jane that you should avoid peanuts?

Of course, if it's a severe peanut allergy, I imagine they did. But they you should avoid the shrimp or the dairy or the eggs, that are triggering, your IgG elevation on your blood test.

it wasn't reported, you know. Yeah. That's. So it's just interesting. It's I it's fast. I feel like all of it so fascinating because there's nuances in, in every aspect that are affecting every other system.

And that's, that's what's exciting and why you love the research. Right? Yeah. You know, I trained we were chatting for a minute before we went on live.

you know, we're both certified in functional medicine. I went through the A for, program. You went through the eye of them program? They're both excellent ones.

there's a lot of overlap, but, one of my mentors is a well known, hypertension expert in Nashville, doctor Mark Houston. And I think he sometimes lectures at both of those formats.

And he always said, you know, the triggers, of, atherosclerosis in most cardiovascular disease is, inflammation, oxidative stress and immune activation.

And that was always the fuzzy one, the third one. And that's kind of what we're talking about is, you know, various triggers, whether they're air pollution or smoking or in this case, we're talking about food allergies or some other triggers of our immune system focusing on histamine release that can really, you know, impact the health of our blood vessels, the health of our heart.

I mean, I just to throw this out because it's always good to teach people stuff they probably haven't heard elsewhere, but it's grounded in the science.

You know, there's there's histamine receptors throughout the heart muscle of H2 receptors. and there are, of course, histamine blockers like some hardening or Pepcid.

And there's not enough studies, but there are a number of studies that, if you use drugs like Brazil and Pantoprazole, which are not histamine H2 blockers, they're PPIs, proton pump inhibitors.

you may actually raise your risk of cardiovascular disease. there's some data that they are not favorable to your end of the ilium, that magical lining.

But the opposite is true of H2. Antagonize, like famotidine, like over-the-counter Pepcid AC or prescription, you know, generic famotidine, a very inexpensive drug.

And there are several studies in people with congestive heart failure. And if you lump all those studies together in what's called a systematic review and meta analysis, that there may be a role in treating heart failure, a very serious and common problem that kills many, many people with famotidine, H2 blockers and something I've done, quite regularly.

If I have somebody with a severe weak heart and we're just going through the standard in the medical and all the other risks, and approaches, we have rather not risks, but approaches that, you know, inexpensive prescription for famotidine is certainly seem to help a number of my congestive heart failure patients.

I feel like this is also fascinating. There's so many nuances to every aspect of every system that affects our other system. And it's really actually exciting.

And I'm sure that's why you're saying that your hobby is diving in and really learning about research.

Inflammation Testing and Screening for Atherosclerosis

We can find so many fascinating ways the body's connecting to each other. So let's move a little bit into

inflammation because we know cardiovascular information unfortunately is very common.

And there's a lot of things that are playing into this. So if someone says I have histamine issues I'm worried about cardiovascular health. Where can I start to make some of these changes that can help myself?

Self. Yeah. Well number one, ask your your practitioner whether it's a functional medicine practitioner or whether it's a standard practitioner because these are available that you want an advanced cardiac inflammation panel.

And if all you can get out of them is one blood test called high sensitivity. See reactive protein. That's great. That's the most studied and most well known.

And every lab panel you don't have to go exotic. It could be at your local hospital is going to offer a, high CRP, high sensitivity C-reactive protein.

Unfortunately, when I see patients from a whole variety of primary care docs, it's distressingly uncommon that this test, which has been around for so long, has so much data, is not drawn and should be drawn.

Now, if you want to go a little deeper than that, you want to get a few others. MPO my peroxidase lpl a two, which is an inflammatory marker, used to be called the plaque test.

Black ox oxidized LDL is a inflammation test. So find out if you have. And these are really blood vessel inflammation. and you probably want to know if your blood vessel inflammation, whether it's from your diet or from your lifestyle or from some genetic blood or, environmental air pollution, water quality, issues in the rest.

So find out. Number two, find out if you have atherosclerosis. It's so crazy that we emphasize appropriately get mammograms or thermic grams, get colonoscopy or cologuard, get a gynecologic exam to make sure cervical cancer screening guy for prostate cancer. These are all wonderful programs.

But we don't screen people for atherosclerosis hardening of the arteries. And either you want to get a carotid intermediate thickness ultrasound. It's just a simple ultrasound of your neck done with advanced digital imaging.

We do that in my clinic or we learn. Yeah, we see 33 year olds and they're already showing atherosclerosis. And it's a simple test with no radiation exposure, which is nice, particularly in, menstruating women and young people.

You don't have to worry about radiation or get my favorite test called a heart calcium CT scan. A quick little five second heart CT, no injection, no iodine, no risk of allergy, no IV, no pain.

Costs about $99 in your local hospital, but you do need a doctor's prescription. You can't just walk in and say, I want to get this test that has 6000 research studies and has, big implications.

I want to make sure I'm a zero a coronary artery calcium score of zero, suggests that your, you know, your mast cell activation syndrome is not causing you to have at atherosclerosis and a coronary artery calcium score of 100 or 200 to 300 or 400 or higher suggests you've got very, very, problematic silent, coronary artery calcium disease.

You know, there's decades at least a decade, but often more before a heart attack, a bypass assistant, or, God forbid, dying of heart disease unexpectedly.

There's years when you can detect this disease and make interventions, maybe on your diet and on your mast cell activation or your lifestyle in general.

so get those tests, get the blood test, get the, imaging studies. And then just like a colon has could be if they come back good. Do them again in five years and make sure you're still good.

You know, we don't approach heart disease with that same systematic evaluation and people suffer for it. And virtually people die from it. That's so true.

And there are so many things you can do and that are often being ignored and people just aren't doing so. If someone comes in right now and they're concerned and they want to start making lifestyle changes, what can they do right now?

We may even dive into that little debate on the diet, because I'm very curious about that. Just so where can we start with lifestyle tips that are really helpful?

Yeah, if you really want to go basic, but it's still not done by probably 99% of people, although your audience. Right. More do you know the big five we learn for heart disease in the 1960s was do you smoke?

Do you ever diagnosed that high blood pressure, high cholesterol, high blood sugar, pre-diabetes, diabetes? And does mom dad brother sister have early atherosclerosis?

So I at least know those big five. But then you know the American Heart Association used to have life simple seven. And they added it on a couple other features like, your weight and quality of your diet.

And also that became life simple.

Lifestyle Changes for Heart Health

Seven and just in the past, 12, 18 months, they upgraded it to, the essential eight, because they added sleep quality and the focus on 7 to 8 hours of good quality sleep without, hopefully sleep apnea.

And it's so easy. You want to have inflammation. Just, ignore your snoring and your gasping and don't get a home sleep study. It's so simple to get a home sleep study nowadays, but if you want inflammation, all you gotta do is ignore all those issues.

and you're going to cook your goose for inflammation and long term health. So that's the simple stuff. And then you get to your water quality and maybe a home, water filter, air quality, maybe a home air filter, getting rid of all those endocrine disrupting chemicals in your shampoo and makeup and lipstick and, you know, food items and, you know, tending to buy more organic than non-organic and, you know, really upping the quality of what you're doing to your life.

And, you know, work out every day, you know, always quality food. And I think the food debate always starts, you know, unprocessed versus processed. Then we can talk about what's the best unprocessed food.

But without a doubt, when you're buying in the middle of the grocery store and it's frozen and it's in a box and it's, you know, got 40 chemicals or 22 chemicals, you know, we have yeah, there shouldn't need to be any more studies.

But these headlines came up as recently as this week, another study of the impact of unprocessed food versus processed food, on cancer risk. And, you know, same for diabetes and same for obesity and same for dementia and same for cardiovascular disease.

So it's harder to get out the, cooking, block and the knife and chop, chop chop and clean and clean, clean and all the rest. But it's important, you know, that you, make your own food and, do the most of that.

Yes. I've heard someone say. Which I really like, that you want to eat ingredients? Not products. Sometimes people are eating products. They don't know exactly what's in them.

I tell people to look at their what they're eating and say, okay, do I know what these ingredients are? Are they five ingredients or less? Am I eating whole foods?

I want to be eating whole foods and not just products that are things that I'm not even understanding. We want to make sure that we're really getting good, simple ingredients.

Well, thank you so much. You've given us such helpful information.

Where to Find Dr. Kahn and Closing Remarks

It's been a great talk. Could you tell us where everyone can find you? Oh, nice. You. Yes. I do see people, and I love patients. And although I like the online stuff, there's nothing like working with one human at a time.

drjoelkahn.con D R J O E L K A H N.com that'll take you to my podcast. That'll take you to my clinic. That'll take you to my blogs and books that I've written and, fun stuff.

And I'll trying to teach people. Usually I see people a few times and just get them on a path and don't need to see them too much more. So that's always a joy to.

Well, great. Well, thank you so much for being here today. Thank you so much for what you're doing teaching people. Thank you. Have a great day everyone.