MTHFR – Decoding The Blueprint: Genetic Influences On Childhood Conditions Transcript

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Introduction and MTHFR overview

Welcome back to ADHD, Autism and Chronic Disease Parenting Summit. I am here with the amazing Carolyn Laskey, who is the founder of the of our support and a fantastic resource for genetics and all things chronic illness.

I'm super excited to chat with you all about my friend and chronic illness. Thanks so great to be here. I'm really looking forward to it. Yeah. Me too.

So I think it's actually really interesting if we can start with my because that's the name of your, you know, the program that you guys are running. And I think I get a lot of questions of identifier as a pediatrician, I think there's a lot of misinformation out there about it.

And I think that stems from a world where, you know, people were looking for different ways to simplify detoxification. And I think it's a very important part of detoxification.

But at least from what I saw, we've come very full circle from, you know, this is like a magical gene that if you have a, you know, some sort of mutation from it, then that's going to lead it everything to more realization that, okay, everything works in tandem and it's just one gene, but it can be super helpful.

So where are we at in terms of understanding of if you have some sort of mutation, what that means? Also, given that some people have a mutation, right.

It's not it's not that uncommon. At such a wonderful question. So we have come a long way and more of, sense for methylene to try to follow like reductase.

And it's a very fancy word basically for the gene that takes your folic acid and converts it to an active folate. Right. And it's an active folate that you need basically is a gatekeeper for a lot of your metabolic processes in your body.

Right. So activated folate known as methyl folate is like either it goes on to make something called Sammy. And Sammy is our universal what we call our universal methyl donor.

So we have all these metabolic processes in our body that need something to switch it. And so what methyl groups do is act like a light switch. They turn things on and they turn things off, and it acts as a cofactor for many really important metabolic processes in the body.

So for example, cancer promoting genes are turned off by methylation. The way that we make hospital choline for our memory is with the help of this methyl donor, Sammy, the way that we make creatine for our brain and for our muscle muscles and our energy is through methylation.

The way we detoxify, say, chronic estrogen or endogenous estrogen that we make or get from our environment is through methylation.

Methylation, folate, and pregnancy health

So methylation plays a really important process in a lot of the things that we do every millisecond of every day. And so what you find does is make sure that we've got the methyl folate to allow us to have this methylation capacity.

So it's not you're right. It's not a just about me, but it is absolutely critical. And so we've come sort of full circle in that everybody originally started and said, hey, this is the most important thing on the planet, but now we've got the

opposite, where women who have had five, six and seven miscarriages are going into their their doctors and saying, hey, I've been doing some research, I've got far.

And the response is, it doesn't matter. And I'm currently doing my PhD on this very topic. And I can tell you, Joel, it does matter when it comes to preconception and pregnancy.

If you cannot make activated folate to methyl eight your DNA, you're going to have crappy quality DNA in both the sperm and the egg, and that is going to lead to early miscarriages.

So it really does matter. We know that from a cardiovascular risk perspective, if you've got an increase in something called homocysteine, you're more at risk of having cardiovascular problems and inflammation generally, because if you're not clearing that homocysteine, it actually does stop and dampen down a lot of the pathways that you need, particularly, for example, with detoxification and oxidation of your lipids and all of these really important things.

But obviously, Shiva, as you quite rightly said, works with a whole range of different other genes, but it is a critical one for people to understand that if they're having folic acid, it's actually not the right form of light for them.

And what about so what other genes are you finding that are very important and practical and useful for, for patients and along with, you know, maybe we can talk about some of the other things that are important for, for chronic conditions as well, because, you know, as we all know who work in this field of integrative medicine, it's there's no one thing, right?

There's so many things that are. Absolutely. Part of this whole whole mixture of where we're going with chronic disease. So so what are some of the things that you're noticing, maybe from a genetics standpoint and then from the other things?

Well, I think we learned some really, really good lessons through Covid and what we saw with those people that I had that predisposition to having more of an adverse effect from a the vaccine and b from the virus itself was inflammation and I think some of the for me, the most critical genes to be able to look at is the interleukin six, the CRP, the, you know, these inflammatory cytokines.

Because if you've got a, a predisposition to having an upregulation of inflammation when you get an environmental assault to the body, whether that be a virus mode line, you know, strep, whatever it happens to be, you've already got the inflammation that's increased that will then trigger your mast cells to release histamine.

And then you've got these sort of histamine inflammatory soup going on. And that also changes the nature of of the cells that are meant to protect you.

So I think the histamine based genes have been really important for us to look at. You've got that susceptibility, particularly in kids, to have increasing anxiety and increasing an allergic disease, an increase in sleep disturbances.

So I think inflammation definitely is a long term health is really important. Histamine based genes. Absolutely. And I also think vitamin B12 for me, the the TK into or the Trans Am two incredibly important because that's how we actually get that methyl group into the pathway to make your semi.

It's through the help of B12. So and we can now see great genes about you know particularly for kids how do they make B6.

Inflammation, histamine, and B vitamin pathways

If you can't make B6 effectively then that's going to influence how they're in your neurologically, calm or not, because everyone will have heard about Gaba and how come and get berries and you need B6 to make Gaba.

You need B6 for your whole detox pathway. So just to be able to get glutathione made in the body, you need B6. So what we do from a general perspective, when any patient comes to see us is we do this assessment of what is their underlying susceptibility.

And as you know, gel that doesn't mean they have a problem, but it means that when they have an environmental impact or they're exposed to something, then it's more likely for those genes to react to or, you know, express themselves is how we, we we say that.

And so knowing that can actually help people who are sick bring them back back to baseline so that they're able to then get better like everybody else.

And because it and that's how I got into this in the first place. You know seeing two people with the same condition, you give them what you think is going to work, and one comes back and says, hey, Carol, and I feel fantastic.

And the other one comes back and says, no difference. And so that was really interesting for me. And I kept thinking, why on earth does that happen? No, it's it's, it's and it's such a amazing time in some respects to be a part of medicine because it's, we're we're at the beginning of this, this field of genetics, which is so interesting.

I mean, we're I mean, I don't even know where at the beginning anymore. We're certainly have a long way to go. But but I think that we're at a point now where it can be very useful for some people.

I think you don't want to overstate our understanding of genetics at this point yet, but at the same time, there are a lot of great tests, a lot of things that we do understand, and a lot of pathways where you can see that there are, mutations or issues on that pathway, and we can work around to or to give us at least some understanding of why, you know, like DSM and not be methylated appropriately and how we can get around that through better supplementation, appropriate supplementation, better personalized medicine for you.

And, and, and I think that's a hugely beneficial thing in the long run. And I hope that over time it can become more cost efficient. It's something that people could do. They could do preventatively.

But certainly if you do have a chronic condition, it's a very reasonable thing to consider. As one of one of the tools because, you know, if you have mold in your house, you've got to find the mold. Right?

But but you can at the same time see if you're more susceptible to mold, are more susceptible to whatever. And these are the things that might help you.

Only maybe you need a mold test, meaning a genetic science. But these are the things, you know, the pieces that are going to bring it together for us.

And just like you said, one patient's going to get better. One patient is not. So why. And and let's be clear, we're not testing for disease state snips.

That's not what we do. We're testing for metabolic based snips. So single nucleotide polymorphisms is what the Snip stands for. And so it's nothing to be afraid of.

It's actually really empowering. And the thing that we know about treating kids is that they react really quickly. You know, they're very, very responsive to some of the things that we can do.

And when you're talking about people that may have, you know, lifelong depression, to be able to understand is that a dopamine base based problem or a serotonin based problem is absolutely critically important.

And you want to pick that up at the age of four, not at the age of 60. And so I think there's when you have particularly things in your family history like cardiovascular disease and cancer and depression particularly, and anxiety, being able to identify that for a young kid, it's just one of the most empowering things that a parent can do, because it will stop them ending up the same way that many members of the family have ended up.

So I think that's also really key. Right? I mean, you could think about just in a very basic sense, when every kid is born, they get a newborn screen, right?

They're looking at their genetics for skin conditions. And this is no different really. It's just, you know, on a grander scale and looking at more things and some of these things we don't have as great an understanding as we do of, like, you have this gene, therefore you have that.

But that disease, this is in a little a little different, but it's not really different. It's just a lot more of it and a lot, a lot more understanding that we need to get to.

But realistically, that's what we should be doing for everybody. And everybody should should get their genetics, tested in theory. And then we should know we're more at risk for this.

They are more at risk for that.

COMT, dopamine, and estrogen detox

We should be eating like this, like whatever, whatever we know. And the more that we do, then the more than we'll know. And eventually it'll get better and better.

I think. That's right. And it's so individualized. It's it's really exciting that you can you can actually come up with a protocol short, medium and long term that is absolutely geared to that individual.

And that's what I find really exciting about it. You're not just checking protocols and the same nutrients at every single person. You really, you know, massaging what you're doing and the dose you're giving and I just I love I love jigsaws, I like, I like jigsaws.

Is there any other genes that you feel like or anything else that you want to talk about? I mean like com tea or something else that, you know, we hear a lot about what people are and those are that's the other one I, I was going to try and come to you parents are like, oh, should I get this tested?

What do you think? Yeah, yeah. Just excuse me. I'm just going to wipe my camera because it's pouring with rain here, and I think it's all that special that, So. Yes.

Can't catch a cold. Oh, methyltransferase is a gene that that does two really important things. One, it has a really big impact on how you you process your dopamine.

And dopamine is one of your neurotransmitters that is really important in mood balance. It also gets rid of toxic estrogens. So for women who might have estrogen dominance in the family, which could be fiber, cystic breast fiber, cystic ovaries, endometriosis, fibroids, breast cancer, prostate cancer in men, that's a really important gene to be able to look at, because you need to make sure that you are getting rid of these toxic estrogen that you don't need.

Now you might think, oh, why do men or boys have too much estrogen? But our whole environment is now estrogenic. So every credit card receipt you pick up, every plastic water bottle you drink out of every container in the supermarket, you buy food in plastic plastics.

They are contributing to these estrogen dominance through these endocrine disrupting hormones, exposure to mold. Basically also marks off our glue colonization pathway, another pathway to get rid of these regions.

So even exposure to mold can make people more exposed to these estrogens. And so Comt is really important. And I think what most people say is, oh, if you've got can't you can't take any metal folate.

And that's absolute rubbish because everybody should be able to take methyl folate. It's all about the dose. And so someone with comp t or slow Comt, they might just have one drop a day 100 micrograms and that's it.

And they're happy with that. And that's good. The whole objective with tea is to make sure you're speeding it up and you're taking the pressure off it.

The Comt fast, which is the minus minus version. Everybody thinks, oh, that's no problem. It's green. It's minus minus. That's great. But they're the ones that are most prone to depression and not having enough dopamine.

So they're the people with more of a addictive type personality. They might have a family history of, alcoholism, drug taking, risky type behaviors, gambling, fast cars, as we would say, sex, drugs and rock and roll.

And so filling that dopamine bucket up is incredibly important to make sure that that child has got a really good self-esteem, number one, because one of the side effects of having low dopamine is low self-esteem.

It's not finishing tasks that you start. It's not being motivated enough to say do your homework. And so these are really good things for parents to be thinking about and picking up, you know, is there a potential given there is a family history of depression that maybe we have got low dopamine in the family is something that I can do to improve that child's self-esteem and their dopamine issues.

And the answer is absolutely. And so comped is important to be able to look at in light of everything else that's going on and saying, well, how how fast or slow is that enzyme now working?

And I liken it to a bucket. What we what we evaluate. And these are the people that SSRI is or typical antidepressant antidepressants that are working on serotonin that don't work at all.

In some cases they make them worse. So if there's that picture in your family, then thinking more about the Comt gene and other genes that feed into that dopamine pathway are really, really important.

Yeah. No, that was a great, great explanation. And, you know, very useful, very, very practical. And I always like to finish off with, you know what what parents can do moving forward or what we can do to be more resilient.

I think in this case, I'm just curious, from your opinion, do you think that a good step for families, especially if they have children with chronic issues or even they just want to prevent, or think preventatively should most people start getting genetic testing at this point, you know, run a test for themselves, go to a practitioner that that's literate in this. Like what?

Where do you think we're at at this point? Are we are we far enough along that it's it's time that the parents should go spend a couple hundred hundred dollars if they can and get a test done?

Yes, 100%. And I think if we, as I said, it's a like a big jigsaw. And if we can actually put the pieces of the puzzle together, it means that that chronic disease state can be improved significantly and it will give that child resilience to a recover, and b give them a more of a preventative approach going forward rather than always, because it's the same cases in a child and you get a child that sick, every single thing that affects them makes them worse.

And so they're falling into a bigger and bigger hole because that genetic susceptibility has not been identified. And when you do identify and you put the appropriate nutrients back in to bring them to baseline, there's a much better opportunity for that child to actually improve.

And I know there's a lot of genetic testing out there. I've been working with an Australian company, for the last year and a half to try and get what I believe is one of the best panels because, you know, you've got 23 million, you've got, ancestry and you've got strata Gene and you've got all these others.

But but they, they're basing them on genetics from companies we know 23 and may have sold, what, 80 million, databases and people's. We don't want that.

So I work with smart DNA here in Australia. They now have a warehouse in the US. So they they literally will just, develop these advanced pathways test, which for me is what I like to see when I'm evaluating it.

And it's got a whole range. It's got 300 different snips in 300 different metabolic areas. And that's the that's the great thing. You've got to pick the right tests because otherwise you're wasting time.

If you're not able to see what you need to see. And if people jump onto our website, which is my Avast support dotcom that I you we've got free videos on that test, information about the test and they can, they can find out where to order that.

So I think yes. And you're right. Go to someone who really understands, like we have eight practitioners in our clinic and this is all we do.

When to consider genetic testing

We we only see people from all around the world who are interested in getting their genetic evaluation, because we believe that if you're going to do this, you've got to do it and you got to know what you're talking about.

You can't just pick someone who goes, oh, yeah, I've seen that before. Yeah. That's good. I'm going to give you these 50 different supplements. That is not what it's about.

You don't see this snip and say, okay, you have to have this. It's all got to be, again, part of this jigsaw puzzle. And we use other tastes like organic acids to really get implants, to get a really good feel for what is going on in the here and now.

What is like you said, you have to go with the individual person, right? Because just because you have acceptability doesn't mean it's going to be affecting you at all.

And that's probably where the mixture of genes come in and also your life circumstances, because we're more susceptible to something. Maybe if we have a certain, genetic makeup, but it doesn't mean it's going to be affecting us in any way.

So just to say, oh, you have this snip, and therefore you should take this much supplement and good luck with you. Like that. That doesn't make sense.

So that's how people still do it and certainly did it a lot more before. But I, I am glad to see that, that we're starting to recognize that things work together.

Yeah. And and even you know, as a prediction such as yourself, I am sure, you know, you always start with, like, there's there's so much that we're learning, right?

There's always that when I talk about, there's so much that we're learning, there's so much that we don't know we're doing the best that we can. You know, here's what we do know and here's where we can start and help.

But it's like what we know today about genetics is probably going to seem so silly in five years. And it's going to be like, you guys, you guys recommended that for that.

But, Yes. And the and you're so right. Like, I'm doing my PhD right now and the the evidence that we're getting is changing on a daily basis. And so you've got to keep up with and we're starting now to do connections of genes like we only ever used to look at one gene from a research perspective.

But now we're looking at combinations of genes okay. From a genetic perspective what happens if you've got this this and this gene together. And that's great.

That's but that's building on knowledge. And yet it's an ever changing landscape. It's it's daily that that it's changing. Which is exciting because for those of us that are in it, you know, full time, it means that there's so much is a wealth of information all day, every day.

It's just takes a lot to keep abreast of what's going on. And I think also, you know, obviously with AI that's going to change the game too, because the, you know, you're going to have systems that are gonna be able to look into this and find connections that we were never able to find with our, you know, measly brains as opposed to the AI system.

So I think it's a really for genetics especially. It's a very exciting, interesting time from from what's to come. And I hope that, you know, it continues to be molded in the right hands, such as yours.

Because I think when it comes to, you know, genetics and all this stuff, people get very worried, just like you said about 23 me, their data is going to get out there.

Things are going to get into the wrong hands. Things are going to be used in the wrong way. And and it doesn't have to be. I mean, this can be super helpful for our health in the long run.

So hopefully, yes, people like you will continue to navigate the field and and keep it. Keep it to health is what I was hoping for. Yes, absolutely. And I think that's spot on. Joel.

That's 100% right. We're going to use these in the right way. And that's why it's important for parents to understand that this is not scary. If you keep it to the metabolic snips, this isn't going to tell you that, you know, your child has a, a fatal disease because we don't even look at it.

And in fact, that's one of the reasons why I chose not DNA, because they refuse to put disease based snips into their panels. So there are none. There's nothing in there that anyone should be alarmed at.

It's just, you know, for our patients, they find it a really empowering experience. And I think that's what it is. That's what it should be. It shouldn't be scary.

It should be empowering. So you walk away and go, that's amazing. And I really feel confident now that what my family history is left behind is left behind.

And, you know, and I can make some real measures. And as you say, we're looking at what can you do from a dietary perspective, what can you do from a nutritional perspective, what you can what can you do from an environmental perspective.

So we're putting all those pieces of the puzzle together and say for you, it's really important that you avoid blah blah. And because you've got chronic histamine issues, we're going to upregulate those genes that are causing the problem.

But we also encourage you to for the in the short term, until you get better, you go on a low histamine diet. What does that look like? Here's an app.

This is what I want you to follow. So it's it's a step by step. And we do it in little bite sized pieces. We don't say, here's 300 snips. This is what you've got.

We look at the condition that the child has at that particular point in time. And we say okay, what are the things that we need to unpack right now? And then we set short, medium and long term goals.

And that long term goal might just be we don't want this child to have depression like dad and granddad and great dad granddad did. So it's it's just this, you know, really nice big puzzle that we can put together and set really nice lifelong plans.

I love it. That's that's a great, great place to end. And I think we all to run out and get some genetic testing done for ourselves here with that. You know, I really appreciate everything that you do for families and, you know, thank you for being a part of this.

And thank you, everyone for listening. It's been a pleasure chatting. Thanks, Joe.