Introduction to the Gut Microbiome and Cancer

The gut microbiome can impact each and every disease that exists out there is chronic inflammation, immune dysregulation, and metabolic changes will influence cancer risk, and they start in the gut.

1 in 8 women are getting breast cancer. And most people are thinking, oh well, it's their genetics. Well, I can tell you right now, 95% of people, it's not their genetics.

Why? It's a lifestyle driven disease. And I think we have to stop blaming our genetics for this and go, what are we doing that we can actually control and we can control what we put in our mouth.

This is doctor talks. Hi everybody, and welcome to this plant based cancer summit. This is a we have a collection of exciting speakers. And today we have we have a great physician, doctor Manisha Bono, a note who's been who has a lot of a lot of different certifications.

She's the founder of Well Coola. And she combines plant based nutrition, gut health optimization, solar vitality, and she has expertise and certification in culinary medicine into a transformational, holistic approach to using her clinical experience to help people stay well.

Had better, happier, more vitality, better life, and certainly a lot of experience seeking people with high risk of cancer or people who have cancer too as well.

So she holds certifications in mindfulness based stress reduction, plant based nutrition, yoga therapy and are you Vedic medicine? So she's an internationally sought after speaker and she embraces these practices that nourish the body, the mind and the spirit.

Okay. So she wants to so we're happy to have her here today. And we're going to talk about more about the microbiome. Michael, it's an important topic. Well thanks for being here.

Yeah. Thank you. Thank you so much for having me here today. And I'm excited to continue this conversation on, you know, plant based cancer solutions.

And I definitely think the gut microbiome is a key aspect that is often under looked at. Yes. And I think the microbiome is a marker of the nutritional quality of a person's diet too.

So it can be used as reflect as indication of what the person is eating and an motivational factor that a person is not eating healthily. You could show them the markers in the microbiome that are showing that what kind of negative impact their diets, having to induce them to eat a healthier, to be on a healthier diet, to.

Absolutely. I feel that there is still quite a big disconnect, that the food we eat fuels our cells and how our body works to prevent all diseases, including cancer.

Why Routine Bloodwork Misses Early Gut Changes

So, and one of the things is I often hear from patients, oh, well, I went to the doctor and my blood work was fine, but I want people to really understand that that type of blood work that we get done is really looking at late stage.

Right? So when we're looking at our CBC or our chemistry or our lipid markers, this is really more late stage changes and structural changes that are already happening.

Or even the imaging where as taking a more proactive preventative focus, you know, obviously using nutrition, we

now have markers that we can utilize to say how healthy is our gut microbiome?

And when, you know, this is really more recent research in the last decade, we are seeing that the gut microbiome can impact each and every disease that exists out there.

So why wouldn't we go in that direction and see what can we do? I mean, honestly, I your data knew this 5000 years ago, so modern medicine is just catching up.

And I think that's a good point. You're making your your liver function tests are abnormal. You have metastatic cancer or something serious. The time your total protein, your calcium drops in your blood, that means you have complete malnutrition.

It's like the very advanced stages of disease at the time. The blood shows some damage. The blood keeps this homeostasis of normalcy even while your body is getting serious illnesses, until it gets to end stage.

So it's not it's not a good marker, right, of those test doctors use that anyway. So you're saying we can identify certain markers before as something advances that for to tell people they're doing something wrong.

Now that has to be fixed and not wait till the blood shows something. Absolutely, absolutely. So many of the factors that, you know, when we have the root contribution being chronic inflammation, you know, most people can identify, yes, I have inflammation or you have immune dysregulation or maybe even metabolic changes.

Right. Because cancer does go in the spectrum of metabolic. All three of these chronic inflammation, immune dysregulation and metabolic changes will influence cancer risk.

And they start in the gut. Right. So this will go undetected by routine laboratory. And this is where we want to kind of go beyond the conventional markers and just say all right I went to the doctors.

Everything was okay. And really give us a much deeper insight into the gut cancer axis. In fact, I feel that everyone should have a gut microbiome test annually because this is one of the things they can control.

It's modifiable. All these result factors are modifiable by the diet you eat. So certain foods can help establish a wide diversity and help a healthy bacteria in the gut.

Thickening the biofilm and a protective biofilm. And certain foods could damage to that lining. Create inflammation, throw out toxins. So can you give a like a kind of a summary of like foods that might help the gut and foods that might hurt the gut?

You know, before you go to the markers. Yeah, absolutely. So now we're getting to the end result of what everybody should be eating. I it's a big picture is ultra processed foods, which is about more than 70% of the American diet is going to damage your gut microbiome okay.

So that's number one. Anything coming out of a package that has more than, say, three ingredients or ingredients on it that you can't identify is is going to affect your gut microbiome negatively.

Additionally to that diet that I have seen that are very imbalanced with, okay, maybe now you're not doing ultra processed, but you're eliminating major food groups like legumes, plants, you know, these kinds of things.

When you eliminate them, you also create this new imbalance in the microbiome. Why?

Diet, Fiber, and Foods That Support the Microbiome

Because you're eliminating fiber. So when I see individuals are like, okay, I'm not eating the processed food, but I'm going to go into a more animal based diet that then they create this inflammation pathway and not knowingly.

They're changing the gut bacteria that exist in their microbiome. And by doing that, they might not feel the impact early on. But a continuity of this will affect the way the body works.

So I think, you know, when I'm thinking about foods, it's really fiber rich foods, whole foods, prebiotics, probiotic rich food, and then things that have resistant starches in them.

So these are the big categories because we're really trying to feed our microbiome. Right. And the foods are the most resistant. Starch are legumes and lentils and stuff like that.

And teasing you I mean, I talk to people all the time and I'm like, oh, so when, when did you have legumes or beans? You know, and some people eat them maybe once a month and in the form of hummus.

And meanwhile I'm sitting here eating for lentil soup almost every day if I can, you know. And so this is very important for people to realize that eliminating these big food groups is affecting the status of your microbiome and what it can do to function.

Yeah. And you know, I agree, because when people can't digest legumes well and they get bloating and gas, they cut them out instead of I tell them to cut down that habit every meal.

Small amounts with breakfast, small amounts with lunch, in small amounts with dinner, they can titrate to that little amount, but have it at every single meal, and all of a sudden they can start increasing large amounts so they stay above the small amounts very frequently.

If they have it infrequently, they don't build the bacteria and the line. The gut lining doesn't really improve their ability to to handle those shoes without producing too much fermentation.

So yes, I think they, they gotta they can't just I can't digest beans. Well, they have to train the body how to digest them right over time. It's kind of like it's very easy to see on a outer level, you know, and I, and I give this to my patients as comparisons.

Right. So if you go to the gym and you just work out once a week, you're not going to build your muscles, okay. You can see that on the outside. But same thing if you eat one salad or one bowl of legumes a week, that microbiome is not going to change enough.

This is why it's the small things we do every day that build the body that we become. Yeah, really, that's really important point to make. So and then you were saying that animal protein in particular has effect to build certain bacteria that produces certain toxins, and those toxins can promote and the inflammation and even promote kidney damage and cancer from the bacteria produce.

Right. And if multiple toxins that accelerate could it can inflame the body when you have the regular exposure to animal products, just like I have a regular exposure to beans, you know.

Yeah. So so you had asked me before what what are some of the compounds. Right. So high animal diet, high fat diets which animal protein diets are high in saturated fat.

There's no way to cut around that. Diets with alcohol, diets with sugar and then the processed diets. All of these will influence a specific enzyme in the gut, okay.

By influencing the gut bacteria that are there. So this is one of the things that I test. And it's absolutely fascinating when I show it to people and they're like, oh my gosh, I had no idea.

So this enzyme is actually called beta glucan okay. This is a enzyme. It's produced by specific gut microbes, specifically cluster E coli Bacteroides.

They will make this and in adequate amounts beta glucan. It has a great function. It plays a role in kind of it's a

chemical process called d conjugation, where it takes the phase two of the enzymes from the liver and helps the estrogen kind of move out of it.

But if we have too much of this beta glucan, it is because we have too much of this bad gut bacteria. It actually recirculate and brings those toxic elements back into our body.

And now we've got elevated circulating hormones that technically, the liver worked so hard to remove from our body. So that happens with high animal diet.

And the risk here is when that beta glucan is high. And I and I do measure this in my patients and and we work very hard to decrease it is it increases your risk of breast cancers ovarian cancers and Demetrio cancer and prostate cancer.

So now when I think about my pathology career of diagnosing cancers, and I have a breast cancer fellowship and 1 in 8 women are getting breast cancer, and most people are thinking, oh, well, it's their genetics.

Well, I can tell you right now, 95% of people, it's not their genetics. Why we test their genetics, you know, so it's a lifestyle driven disease.

Gut Markers, Immunity, and Personalized Nutrition

And I think we have to stop blaming our genetics for this and go, what are we doing that we can actually control and we can control what we put in our mouth when we understand what we need to do.

Right. And I think, like the tomato, the trimethylamine oxide, the toxin that comes from the bacteria, can you measure the bacteria levels that produce more of this toxins?

Female in the gut. Yeah. So those would be, you know, imbalanced amounts. Having Clostridium, Bacteroides and E.coli is fine. When we increase the and we create an imbalance diet because we, we're eliminating legumes or eliminating plants and all this stuff, and we're just eating animal protein.

We create an imbalance. And those are the ones that are going to then grow out of control and contribute to this inflammatory pathway. Okay. So what are what are some of the other more gut markers that you use to identify people and motivate them to make more dietary, increase their dietary fiber diversity and increase their resistant starch?

How do you show them they're not doing a good enough job? The size the baiting for modest. Yes. So it's kind of funny because everybody, as they start the process says to me, I eat a really good diet.

I mean, I can't tell you how many times I have heard this. I eat a really good diet. And then they're kind of surprised. And the gut microbiome is just one of the testing I do.

We have an entire protocol of more functional testing that we do in my programs, but the beta blocker on it, this is modifiable. The other one that relates to cancer is IGA.

So I g a is the main antibody. It's really an immuno protein that's found on the gut lining. And it acts like a bodyguard. So it protects you against harmful bacteria viruses, toxins, pesticides kind of trapping them and neutralizing them before they enter and go into the bloodstream and go to the rest of the body and cause disease.

I measure Secretary IGA, and what I see is often a majority of people have really high levels. Which high levels indicate an active immune response. It's usually due to or triggered by chronic inflammation, food sensitivities, infections, toxins.

Now what happens is because it's an immune regulator, it can contribute to this ongoing inflammatory environment, thereby fueling tumor promoting pathways.

Right. Because inflammation is that underlying pathway of creating disease in the body. So we know that the entry epithelia, lymphocytes that lie right behind the villa in the small intestines flourish.

And they're dependent on green vegetable consumption, including lettuce and cruciferous greens, to actually build the defenders at the gates of the castle.

Right. So how do you get the patients to start to be eating, not just regularly, but to better large amounts of these healthy foods to build their gut immunity?

Do you make it easy for you to blend salad? Do you what do you do to get them to eat more of those healthy stuff? So and it depends on the individual, because some people do really well with salad, some people do very well with soups.

And I do take a personalized approach to it. And I and I do add in an aromatic background because I know some like from an irate standpoint, not everybody is going to benefit from salads in that sense.

They will benefit from the ingredients. So for them, we're recommending, you know, ten vegetable soups or ten bean soups or something like that. And because many people have grown up without the skills of actually going in the kitchen and knowing how to fuel themselves and create meals, I'm a big fan of one pot meals, right?

Or one sheet pan roasting as many different colors of the rainbow as you can, can, or really when you're having any meal looking at, do you have all the colors of the rainbow to make sure you're getting as many different nutrients and as possible, whether that's phytonutrients, polyphenols, all these different compounds that are going to fight disease.

So with patients, we really start with where they're at. I mean, if they're going from a standard American diet to like, let's just clean up the diet, we go there if their diet is already pretty clean.

And now we're going into all right, let's see how we can optimize this. So your symptomology and your gut microbiome are all kind of heading in a better direction.

Yeah that's good. So you know we know that we used to think that probiotics were the way to establish good gut health. But now we know it's the wide diversity of different plant materials that leads to the healthiest gut and including, you know, like even, you know, taking the oils instead of eating the whole not so seeds.

We get the fiber, we get the sterols, we get Stanleys. The whole thing is to get a variety, different types of mushrooms, different types of vegetables or pie and all this stuff.

And do you utilize or recommend fermented foods to where you don't? We don't think that's what I do. And it it really depends because so if I have an individual that okay, where we're just trying to fix the gut microbiome and they do not have say a histamine issue, like they don't have eczema or anything else like that, then yeah, I will absolutely recommend it for fermented foods.

If there's somebody who has like, you know, this eczema or this kind of nasal drip and all this kind of stuff, we're going to hold off on those until their gut is a little bit more repaired, because wise, we won't be able to create that, that health inside of the microbiome that we want because there's just too much damage there in that lining.

And they're going to be super sensitive to that. But absolutely, I prefer probiotic rich foods over probiotics. In fact, not all my patients are even on probiotics.

We focus on getting a probiotic rich meal with like with every meal, which. So that might look like if somebody is having oatmeal in the morning, I might have them to put two tablespoons of plant based yogurt on it.

Or if they're having a smoothie, put that in there for lunch. That might look like two tablespoons of sauerkraut or kimchi. And then for dinner maybe a miso soup or something like that. So I kind of talk through what they're already

eating and go, all right, how can we make it better?

Right. So you're already eating less. Let's not make it more complicated. How can we make it more nourishing for your microbiome? Right. And I do work with my chefs to to make some of those substances without salt.

Short-Chain Fatty Acids and Chewing for Better Absorption

We can have recipes to make some entered foods without dousing a person with excess salt in their diet. I don't think most of my cooking, like in general, does not have salt.

I use other spices to flavor my cooking, other spices, and you could still ferment things without salt. And we have so and then we just plus somewhat.

There are some other fermented products that can be utilized that don't have salt in them. Yes, that is so. So then so now you have this person who has some medical risk factors, their medical risk improving their diet, and then they get a cancer diagnosis.

So then the question is how do you rev up the how do you accelerate the intervention to be even more aggressive, to help them prevent recurrence or survive with a cancer diagnosis?

Do you have any extra tips or tricks you do so it depends where they are in their journey, right? So if they are still receiving treatment and we want to make sure that we're focusing more on the nutritional aspect, making sure they're nourished, they're now if they are post-treatment, like say a cancer patient is coming to me, they had chemo maybe a few years ago, and their gut microbiome has not been restored because we know that chemo will affect the gut microbiome.

That doesn't mean you don't take it when necessary. It just means we need to address and rebuild this up. The microbiome. So same thing. We go through the testing where we're looking at.

We will look at meal digestion. Meaning when you eat something, are you able to break down the food that you are eating? Because if you can't break down the good food that you're eating?

Because most people, not most, but many people, once they've had a diagnosis of cancer, they're like the next morning, they're almost like, okay, now I'm just eating green juices and I'm doing this.

And without understanding that, their body has to be able to digest those nutrients. So if you're not breaking down food properly, it could create inflammation again, even if you're eating the best diet.

So we look at mal digestion. We'll look at three different types of inflammation. One is looking at their food sensitivity type of inflammation. And then the other one is also looking at those IGA markers.

We look at their gut microbiome commensal bacteria, which commensal is the ones that you want to have. You just want them in the right amount. And then we look at the last one that I haven't given you is short chain fatty acids.

And then we also look at pathogenic organisms. Meaning do we have bugs there that we might have picked up because our intestinal lining, our intro sites were defective and they have entered our body.

So the one that we haven't really talked about yet is short chain fatty acids. And in some people, the first line is not to supplement with short chain fatty acids.

That is more of like a second third line, because short chain fatty acids are your host biotics. So we have prebiotic food, probiotic food, and post biotics.

Post biotics are created by the gut microbiome, by the gut bacteria. So they make three compounds. They make butyrate, acetate and propionate, which is short chain fatty acids.

And research has shown us that short chain fatty acids keep inflammation down right? So they act as a primary energy source for our colon lining cells.

They protect and strengthen that intestinal barrier. They actually promote immune tolerance, meaning that having adequate short chain fatty acids can help your body identify between friend and foe.

All right. So these are very important. And they will also influence gene expression. Right. So from the point of epigenetics and cancer suppression which is why when we have low levels of short chain fatty acids, it increases our risk of colon cancer.

It impairs our immune function. It affects that chronic systemic inflammation. And it will alter our cell signaling pathways. Many, many patients have short chain fatty acids and even the plant based ones because they're not breaking down the food they are eating properly.

So that is a problem. So chewing would be number one. And that. Right. So I think that the to put that into action is that the food with the foods that the highest resistant starch, if we weight rate carbohydrates on a hierarchal scale of resistance, starch and fiber content, we get beans, legumes, peas and lentils as the top.

And so eating those frequently is key. But as you're saying, if you swallow it whole and you don't chew it very well, it's a combination of chewing with the epithelial growth factor in the mouth and the nitric oxide mixed with the bacteria and the teeth, and the right foods that combines to build and send the digestive enzymes and all these beautiful compounds that are happening in our body.

Absolutely. What reminds me of a study that showed that, you know, we know that cruciferous vegetables and cruciferous vegetable intake are linked to risk of common cancers, the higher level cruciferous intake.

Practical Food Prep Tips and Closing Remarks

But the but the data shows that the best correlation is urinary urinary ISO file cyanide compared to intake of cruciferous vegetables in general urinary isotype isoleucine it's ITCZ is more an acute predictor of cancer risk because it identifies the people that are chewing it better when you eat, because if you cook it all, you destroy them.

I roast this enzyme that forms the ITCZ in the mouth, because you break down the my roses from the glucosinolates in the vegetable changes into the it sees as you chew and as you chew better.

You form our ITC. So if you're putting sprouts or arugula on your salad and you're chewing it better, you form ITC. So it it really these tests delineate the people that are eating the food. Yes.

But also chewing it better to create more nutrients in their blood, in their bowel and in their urine, not just swallowing it whole and savable through undigested.

Absolutely. I think I'm a big fan of purple cabbage. I eat that every day, just like some crunchy purple cabbage on everything. But I'm also chewing it.

And and so one of the tricks that I give people is, you know, they're like, oh, I can't possibly eat more broccoli or cruciferous. Like they just feel so, like heavy, right?

So I use a mezzaluna. Okay. A mezzaluna is a, you know, for those chefs out there, it's like a kitchen contraption. It's like basically like a handheld blade.

And it chops the stuff up into more bite sized pieces. So you don't have, like, lettuce or all that stuff hanging off the side of your mouth. And then you're trying to chew it.

And that way you're also able to think of it like a Cobb salad, where everything is kind of chopped up smaller, and

then you're getting all the different colors and nutrients all in one bite bowl.

And I love that. And people love using a mezzaluna because it's just fun to chop that way. And it does it. And it takes you to compare the food. Right.

But it also takes a lot of mindful attention when you're eating to be able to not want to swallow it too soon until you kind of liquefy it or, you know, so that's I know you, you're putting that mind body together and having and focus on the beauty of the food, the value of what they're eating and how they're eating it all to make it improve their health.

Yeah. That's cool. All right. Well, pleasure having you. Thank you so much for your contribution to this field of, of patient care and to this summit as well.

And, you know, I hope everything goes well with you and all your on the positive effect you have on all the people that you, influenced positively. So excited about that.

Thank you so much for having me on this time. All right. Take care. Bye bye. Bye, everybody. See you in the next episode. Thank you for tuning in to Doctor Talks.

We hope today's episode has enlightened and inspired you on your path to optimal health. Each day is a new opportunity to make choices but empower your wellbeing.

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