Insulin Resistance: Key To Understanding Diabetes Transcript

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Introduction and Guest Background

Our healthcare is not designed in a way that we deal with these issues in the beginning but we rather make them flow towards the end of diabetes and that's when we start worrying about like bringing the sugars under control rather than preventing them from progression to diabetes.

This is Doctor Talks. Welcome to another episode of Reversing Type 2 Diabetes Summit 2.0. I'm your co-host, Dr. Will Hsu, and today I have a wonderful opportunity to speak with Dr Shansi Mardana, an endocrinologist.

And without further ado, I wanted to jump into this conversation with Doctor MARDANA. Can you tell us a little bit about your practice and who you are so that our listeners have an appreciation for your background and the experiences that you care.

Thank you for providing me with this opportunity, Dr. Shroo, definitely. So my name is Jhansi Maladana. I'm a practicing endocrinologist at Wentworth Douglas Hospital.

We have a robust community practice of endochronology where majority of our population is, of course, type 2 diabetes, the most challenging and critical condition right now in the United States.

And we also take care of other patients with type 1 diabetes and other endoprenological conditions, but a majority our of population, is type two diabetes.

Can I call you Shanshi? Would that be okay? Yeah. And it called me Will as well. So Shauncey, you know, being kind of a fellow endocrinologist as you, we all came into this discipline with a certain degree of passion, right?

And maybe you could tell us a little bit about what drew you to the practice of endocannology and specifically to this health condition called diabetes that now affects up to 15% of US adults.

That's a good question. And that's always been a passion because my grandfather was practicing traditional medicine before.

Why Diabetes and Endocrinology Matter

We all grew up eating healthy food, making sure that we follow good lifestyle. I have seen that once I transitioned to my med school and then when I started my residency in the States, I noticed that there's lot of population that is getting affected mostly because of the lifestyle, And that diabetes, the treatment of diabetes lies mostly on the changes of your lifestyle.

So I am somebody who likes to maintain a trust relationship with my patient, just like how we used to have family doctors before. That trust actually helps heal the diabetes is what I feel.

and I like the statement in ADA which says that type 2 diabetes remission is possible which is not discussed in majority of cases and i thought i should bring that movement forward and that is my goal with this journey of being an endocrinologist practicing diabetes.

Well, thank you. And a lot of people know that, or in some way, there's been a criticism of kind of the Western medicine in the lack of focus in addressing the root cause of type two diabetes, right?

So do you think that's fair? I think the The accusation really came from the angle that we as physicians, we just give medicines. We don't talk about how do you reverse, how you treat underlying root cause.

Is it a fair statement from a practitioner such as yourself? So honestly, when I was doing my fellowship, the first thing that my mentor addressed to any of his patients, even his type one patients was that he always used to ask their occupation and then he went into their personal details.

And the next thing he said was, Always remember the foundation of treating diabetes is diet and exercise. Anything comes after that. So that was how I started my training and I truly believe in that and honestly everything comes with some side effects like any medicine that we have.

Why do we need to take some medication? to manage a disease and have the brunt of the side effects and not forgetting the cost of medications that's involved.

When we can choose something which is more natural to the body, more physiological, and then use that as a tool to cure diabetes. Now, one of the root cause, as you said, that arose from maybe inadequate exercise and maybe poor diet was the occurrence of insulin resistance.

Understanding Insulin Resistance

That's been called kind of that. I don't want to be, I think the people say that it's the mother of many of the cardio medical conditions. We can also call the father of it, if you will.

And what is insulin resistance? And it has been talked about so much. Can you help our listeners to understand what it is and why is it so common? So insulin resistance has basically decreased response of your body to insulin.

So usually whenever we eat any carbs, you need insulin for your to absorb. And the major organs in the body that absorb insulin is your liver. and your fat, which are mostly dependent on insulin to absorb the blood sugars.

Those are the storage organs, right? But it could be genetic or lifestyle, but if we have visceral fat mass which is deposition of fat around the liver, what happens is that the sensitivity or the response to insulin decreases so much.

So in general terms, fat is the most influent resistant organ in your body, let's say. and you have the same fat wrapping up around your liver, what happens is your lever, which was before sensitive, now it is more resistant to the similar insulin.

So the way I explain it to my patients is, let's say you needed two units of insulin to absorb one slice of toast before. When you had resistance, you would require 15 units, maybe let say, to observe the amount of sugar by your level.

because of the fat around the liver. So that's what we call as insulin resistance. And also now we are seeing it in patients who are so young, like, you know, they have this acanthosis nigricans, which is this line around your neck that you see in some of our female patients, who were slightly overweight or obese, if I would call them.

Yeah, so those so the decreased response is the driving factor for the burden on your pancreas, Which burns out at some point, and then you would end up requiring insulin.

and the sugar starts floating in your blood and you'll see all these microvascular complications like heart attacks, stroke, amputations. So the goal for us with the diabetes would be to cut back on insulin resistance and our dependence on insulins.

It sounds like a terrible causes for many of the conditions. Would you say that one may see instant resistance even before glucose start rising or only occurs after glucose starts rising?

No, we can see it before. That is why we have this pre-diabetes and diabetes. So the first thing to form is to start with is insulin resistance. And then you progress to pre diabetes and then your progress diabetes where you see the sugars are already floating in your blood.

When we check your, blood we noticed that your A1c is higher than 6.4% or your fasting sugars and more than 126

or you're two hours are greater than 200.

and that's when we call it diabetes, but like you said, You know that it is a progress. How do our listeners find out if they have insulin resistance?

What are the signs? Are there symptoms? Or are there blood tests?

Signs, Testing, and Early Detection

Like I said, weight gain, obesity, especially the studies that have been done so far have shown that abdominal obesity is, people who have abdominal, are much more prone to have diabetes in the future than patients who will have their obesity centered in their, around their hips and thighs.

So that's a first sign. If you're accumulating your fat mass and there's an increase in your waist size, that the first time that you might be. So let's go there a little bit.

Is it just a measurement of your waist? Are there some other tools to know that there's fat inside your body? Yeah, the visceral fat mass, which is like body mass analysis, where you have visual fat and there is a separate component called lean body.

So yes, definitely yes. We have this component. And so just to clarify for our audience, many of the middle-aged men have what we call love handle. Are those visceral fats, are they related to insulin resistance or that's a separate compartment?

That's separate compartments. Visceral fat is mostly about the position of fat around your liver, like I said, which decreases your response to insuline, leading to high blood sugars, the sugars floating in your blood.

Mm-hmm. I see. But it doesn't seem to be routinely talked about or routinely assessed, right? That component of that. And I know, for example, there are CT scans and ultrasound that can look into that, but it's not a routine clinical test.

Correct. That is never considered to a screening tool, unlike what we have for cancers and all. Yes, true. So we should breathe a sigh of relief that it is not the love handle that's giving us resistance.

Yes, but we don't want them to either. But yes, yes. Okay. Fantastic. And so now the relevant part, right? The most relevant parts our listeners are going to have is what then can we do?

If there is more fat in the trunk rather than in their hips, if they're overweight and their BMI is elevated, they know they probably have insulin resistance.

What can do about that? Again, we're going back to the foundation of trying to help them with their diet and their exercise before they progress to diabetes.

But unfortunately, our healthcare is not designed in a way that we deal with these issues in the beginning, but we'd rather make them float towards the end of diabetes, and that's when we start worrying about bringing the sugars under control rather than preventing them from progression to diabetics.

And so as a clinician that are working the trenches every day, what do you tell your patients when you notice that they have central obesity? What are some of the treatment you will recommend to your patient?

So that's a good question. So first of all, we need to understand the social barriers as well.

Lifestyle Treatment: Diet and Exercise

Because some patients, when I bring up about diet, let's say, and we want to talk about diet in detail, we would get

some sort of a resistance because of the socioeconomic status sometimes.

But then I always offer them a visit with our nutritionist because I feel like nutrition is a big part of playing a major role because You could always have the option of choosing good versus bad, right?

So my first counseling with them would be a little explanation of what insulin resistance is and how the insulin resistances would affect them in the future because they might not have knowledge of how that would effect them the in future.

And then what are the ways we decrease insulin resistant in first place before progress as to diabetes. and the foundation diet and exercise and how they can inculcate that into their daily lifestyle without having to pay more or like without you know sometimes they don't understand that it is possible so we need to give them that hope and options that they could include in their lifestyle.

So let's go there. Exercise, right? Let's talk about that. What kind of exercise are helpful? Is it one type? What do you recommend in terms of the intensity or the types of exercises for your patients with insulin resistance?

Moderate intensity for 45 minutes, at least five days a week. And what does that look like, moderate intensity? Does it involve running? does it involves weightlifting?

There's been a lot of discussion around that, right? Is it more aerobic that's more important or is it the stress resistance exercise? I would feel that stress-resistance is much more with the time that they have.

to help with visual fat mass than aerobics. But honestly, whatever they could, let's say they have only some time for them, then I would say if walking is the only thing they would do, that I will just say, just start with that and then progress.

Yeah. Strength training, I feel like is much, much more important to reduce this. That's a very pragmatic approach, right? Yeah, we could debate about what's most optimal, but the reality is just get started, so that's very important point there.

And you mentioned 45 minutes, is that in one sitting or is it in multiple sitting? What is pragmatic? Whenever they can. So I say that some of my patients, while they're at work, Sometimes when they have some time at work where they're working on the laptops, they use the resistance bands for the legs so that they could just do the rest of the exercises.

So somehow they can incorporate to combine to a 45 minute. But if they would do at least 20 minutes at a stretch, that's good. And just just a quick poll here of your patients.

How many percentage of patients actually you think are actually following these advice, these exercise advice? To be honest, in general, maybe 20%, I would say.

And why is this so difficult, you think? Because everybody knows these knowledge, right? So how do you actually motivate your patients to do this? Everybody knows diet and exercise is just the everyday implementation that's challenging.

With your experience, what are some of the tips and what is some the insight you have to motivate Fortunately, we have a health coach program in our practice where the patient sets goals for themselves and the health course makes them drive them.

So let's say the patients say, okay, from now on, I'll invest 15 minutes of my time into exercise. The health coach follows them in a week and asks them, like, how did you do with your goals?

Some patients like it because they feel they're more accountable. And we'll schedule frequent visits with the patients, which sometimes is not possible always, but we try to stay in touch with them frequently.

Motivation, Accountability, and Coaching

And number three would be, I don't know if this is a good thing, but sometimes we discuss about the bad complications that they would see at the end of the day.

So it's sort of, the negative motivation, saying that, hey, we are not doing this for ourselves at this point. This is what we're looking at in the future.

Do you want to be dependent on someone because you have amputations and all of that? So it's both a push and a pull, right? So you wanted to draw them to good things, but at the same time, you want to push them, nudge them a little bit towards those lifestyle modifications.

Okay, now let's move on to even a bigger topic of diet. There are just so many controversies, so different types, and so difficult to do it on a daily basis.

What are some of your general big takeaways after seeing so much patients? What do you advise to your patients. So honestly, most of the patients do well when it's more regimented than me discussing saying, hey, you have to swap these things with this, You have stop doing this.

Instead, they feel like having a regiment routine or following something actually helps them lose their weight more or follow something like, for example, weight watchers, some patients to it.

because they feel like they're more accountable. And some of my patients, they want to meet up with the nutritionist because some patients like skipping things.

Let's say they have soda in their diet for the next three months before I see them. That's their goal, skipping thing. Some patients come with some fad diets that sometimes I don't even have a clue about.

So we basically discuss options of what would suit their lifestyle. some patient's like intermittent fasting and then eat whatever they wanted to eat.

during the break, fast break. Some patients like ketosis, some patients don't like keto, so it's a myriad of options right in front of them. But I think I feel like it has to be tailored, supervised, and sustainable in the long run.

So you think that medical supervision is actually important. Why is that? Because when you follow a diet and then you lose your electrolytes sometimes, right?

Sometimes you might have low blood sugars. So somebody supervising you to assess because all of this is medical, right, you do something and then you have no blood sugar or condition requiring you To have your visits or admissions to the hospital is dangerous sometimes that low sodium, let's say.

So you take away this that you should always discuss with your healthcare provider before jumping on certain type of diet.

Intermittent Fasting and Diet Strategies

Now I was really caught up by you mentioning intermittent fasting. That is actually the latest survey that talked about, this is one of the most common eating habits of Americans right now.

More than 10% of American's are doing some sort of fasting for their health. What's been your experience with that? Like I said, it is very good. People follow that for a certain amount of time, but they feel that it's not sustainable long term.

But otherwise intermittent fasting is great. It has been shown that the results are good, we lose weight on that and the insulin resistance comes down.

At the end of the day, how sustainable it has for you to follow for lifelong routine. Now prior to this interview, you were mentioning one of your patients is on a specific type of fasted mimicking diet.

Can you tell us a little bit about that experience? So this fast mimicing diet, honestly, I came to know about it from a patient of mine. wanted to do that and he wanted my help because it is a medically supervised diet.

So I got to learn more about it after meeting some of the experts in the field and learning more. And I felt that maybe this is the one that might help my patients.

One of my She also has fatty liver disease, right? And she was poorly motivated at that time to maintain her blood sugars. Her A1c was around 8.3% when I saw her.

And, she's already on metformin and GLP-1 agonists, which are the treatment right now, the GLPs, but she is not motivated. And she doesn't want to be on the medications because of the side effects.

She has bad nausea and vomiting, but she's tolerating them because off the hope that that might help her blood sugars. So I thought she might be the candidate and we discussed about this fast mimicking diet, how your body when you're fasting for five days would push her, push it into a shock.

That would help reduce insulin resistance and the benefits of reducing your weight, your blood sugars and coming off of medications. the goal of diabetes remission, right?

So she was very interested and she started the diet. It's a five-day diet, so five days for a month, for six months, and then the maintenance phase is five these for every three months for the next six month.

And she can choose to do it for rest of her life. The catch for her is, oh, it's just five day in a out of it, and also she gets help from a dietician whenever she has any questions.

So she started it and thankfully I just saw her yesterday. She finished four cycles of that. she's off of all her diabetes medications.

Fast-Mimicking Diet and Diabetes Remission

All of the diabetes medicine, wow. Four cycles, that's five days for four bottles. That's 20 days of effort there. Yes. And she lost 26 pounds. and heroin C is 6.2% now.

So with four cycles, it came down 8.3% to 6,2%. And we are still waiting on her liver numbers. She's following with her hepatologist next month, but I'm hopeful that's going to get better as well.

And the more than this, what I liked about this is her husband who does not have diabetes and is not following this diet also lost 15 pounds because of the way she changed her lifestyle.

I see. That's amazing. The way that she got motivated and even her Husband who was with also got motivated and lost 15 pounds. That's collateral benefits, right?

In the family. It's fantastic. Yeah. So, this Fasting Libre Can diet program, I think you mentioned earlier, it's one of these innovative approach to diabetes remission, but maybe the concept of diabetes is remissing is still a new one for our audience.

Can you speak to that a little bit? So the ADA guidelines mentioned that if your A1c is less than 6.4% for more than three months and you're off of any diabetes medications, then we can safely call you to be in diabetes remission.

Honestly, I never knew about it throughout my first year of fellowship. And I got to know about when I was working on this project of where the bariatric surgeon who does the sleeve gastrectomy is looking into diabetes transmission.

What is diabetes remission? I'm like, oh, it isn't the ADA first page of ADA if you go into that. So it is possible and you don't have to have surgery and having options like this where you do not have go through surgery.

And being free of medications and not having diabetes is it's a mirror. Yeah. That is really news that many of our listeners have not heard before. I think the program, it's called L-Nutra Health, or LNUTRA Health is the name, and you could go to l-nutrahealth.com.

Again, L dash nutra, that's N-U-T-R-A health dot com. Dr. Maradona, thank you so much for just giving us a really a in-depth look at insulin resistance, what it is and how to treat it.

And you ended up discussing this case, patient case that you have. Anything else, maybe your conclusion for our patients or our audience looking to combat insulin resistant?

Is there a short last minute kind of summary that can give to them? What would you say to that? Start working now. Do not delay.

Closing Advice and Episode Wrap-Up

So don't wait. Don't. It is now or never. Yeah, do it. Dr. Maridona, thank you so much for this wonderful interview. I hope to see you again. Thank you, Dr.

Shro. It was a pleasure. Thank You for tuning into Dr 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 that empower your well-being.

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