Liver Health: Key To Controlling Type 2 Diabetes Transcript

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Introduction and guest background

Welcome to another episode of Reversing Your Type 2 Diabetes 2.0. This is your co-host Dr. Will Hsu. And today I have the pleasure of inviting Susan Kim, a registered dietitian who is in a very interesting space, and she'll tell you all about it.

And in the relationship between type 2 diabetes and fatty liver, that's right, fatty liver disease, this is a topic that we haven't addressed in the past that I think will be of great interest to you, our listeners.

So welcome. Thank you, Dr. Hsu. My name is Susan Kim. Like Dr. Hsu She mentioned, I'm a registered dietitian. I'm also a program manager for the Living Donor Wellness Program at the U. S.

Transplant Institute. I help living organ donors help improve their health markers for candidacy. And then prior to the Transplant Institute, I worked with Dr. Valter Longo at his research institute, and I'm also his former student as well.

I'm happy to be here. Well, fantastic. So you said quite a lot. The living donor and the liver. And tell us why do we need living donors? What is that program about?

And and certainly I'll make sure to channel our conversation back to the interest for people living with type 2 diabetes. Sure. So there is an organ shortage.

There's over 100,000 people that are on a waiting list for a kidney or a liver transplant. And one of the most viable options for this issue is living donation.

Living donor shortage and wellness program

And so many times, family members, friends or even strangers come forward to become donor candidates. However, because of the rates of obesity, diabetes, fatty, liver disease, a lot of these patients come through our evaluation and they're not candidate.

And so although this is a really great solution for the organ shortage, we're coming across barriers like chronic diseases, obesity that we're trying to tackle.

So that's where our living donor wellness program, the reason why it was created to help donors optimize their health for our donation, but also for their long term health as well.

We want them to be healthy after just after the surgery. Oh, what an interesting angle here. So there is an organ shortage and you're inviting people to be donors.

But but the same thing that impacts our society in general. The obesity and diabetes epidemic is also hitting impacting the donor population. That's an interesting way to look at kind of the challenge of our society.

Right. So we're seeing about 70% of the U. S. population is dealing with either overweight or obesity. And that's a that's a challenge. When you want to donate your your your your liver.

Right. To to help other people, maybe a loved one and and others. And so the reason I stumbled across this is because USC, the living the living, I should say the liver transplant center at USC is doing a high volume of transplants per year.

Right. I think is one of the busiest centers on the West Coast here. And if you want to help you donors to reach

eligibility and because of that liver fatty liver situation is prevents them from some doing so.

So maybe let's start with with kind of a basics. What is the liver, fatty liver. How does the liver against fatty and how common is that problem? So it affects about 40% of the population.

And then it's when there is excess fat infiltrated in the liver and an excess fat of over 5%. So that's considered another word for fatty liver is hepatic status assists and that can progress.

So if you have a fatty liver for a long period of time, then it can increase inflammation and scarring. But what we do is we want to capture that early and that can be reversed with diet, exercise.

Many times it's an unhealthy lifestyle that has contributed to their fatty liver obesity, poor diet, quality, physical inactivity and all of like I mentioned, all of these factors can be reversed with a healthier diet or physical activity.

And then one of the interventions that we've used is the fasting mimicking diet as well.

What fatty liver is and why it matters

Yeah, so we'll come back to that in a second. So this is really interesting. 40%, you're talking about the US population, 40%. Yes, that's that's amazing.

That that is incredible. That's a very alarming number. But do you have it on the top of your head? What about the percentage of fatty liver in people with type 2 diabetes?

I can only imagine is probably the same or higher. I think the estimates. Yes. And, you know, many people don't realize they have fatty liver disease or diabetes.

Right. There's a percentage of people where we're kind of estimating that there is 40% or more. I've been in a really interesting situation or opportunity because these are people that are coming from the general population.

You know, we don't we do extensive imaging blood work. So it is the most comprehensive physical you will ever get when you decide you want to be an organ donor.

And so one of the imaging that we do is an MRI. And most people do not get an MRI until unless it's indicated. So we have people as young as 18 years old coming in for MRI's.

And so I have this really unique opportunity to actually read these reports and see that they have excess fat in their liver, which normally probably would not be captured in a regular physical exam with their primary care because they're not doing MRI's.

And so I've seen 22 year olds that are normal weight. They have a BMI of 21 and they have over 20% liver fat, which is really high. Mild, close to moderate.

So so how do people get diagnosed? I mean, you mentioned MRI, but but that's not a routine test that the doctors monitor. So our our is right. We're living with type 2 diabetes.

What should they look for or how should they advocate for themselves in front of their physicians? What tests should they be looking for? And blood work.

So we check their blood work. There's a comprehensive metabolic panel checking for liver enzymes. Sometimes the liver enzymes are normal, and I still see donors that have access to fat in their liver.

Also looking at your fasting glucose, hemoglobin, A1C other risk factors are a large waist circumference for women and excess waist circumference of over 35 inches for men over 40 inches.

We also measure body composition at our clinic to that we can see the percentage of body fat where the weight is distributed. So there's a lot of tests and markers that we can look at to see if they have something called metabolic syndrome, which puts you at risk for diabetes and fatty liver disease.

It's just way too common. There's this challenge and but in diagnosis and unaware of this risk factor or this health condition is yet another challenge.

Right. So people with type 2 diabetes, there's so many carriers, so many other comorbidities, like sleep apnea is another one. We have another episode addressing that and certainly periodontal disease is another one.

And yet here the fatty liver is yet another another challenge here. So so let's talk a little bit about the if unchecked and diagnosed and continues for a long time.

What happens to somebody with fatty liver what what complications. It's it's in store for those who don't get checked out and don't take care of this specific condition where.

Diagnosing fatty liver and metabolic risk

It can lead to inflammation of the liver or we will see the liver enzymes elevated and over a period of time of inflammation continues that will lead to fibrosis or scarring in the liver.

And then that can lead and lead to end stage liver disease. So I also see recipients as well. I see patients with end stage kidney and liver disease, and many of those patients have type two diabetes and have had type two diabetes for many years.

That's been uncontrolled. So liver health and diabetes really do go hand in hand because a lot of those metabolic markers overlap. And that's an important message there, Right.

These two conditions, even though they have separate names, but but they all come from this disturbance of the metabolic balance in the body. So let's talk about then we talk about the diagnosis.

You talk about definition, we talk about the consequences. What do we do about it? Right. As a dietician, by the way, is there a drug right now approved for the treatment of fatty liver or is it all dietary?

Is the standard of care, diet and exercise, 7 to 10% weight loss and changing your dietary habits to healthier patterns like the Mediterranean diet. And so this is really why we're having this conversation.

The power is in your hand, our listeners right? It's not something that a physician can prescribe for you that could just take care of it the next day.

This is something that's within your grasp and you can actually control your own destiny. This is where the stand in the next 10 minutes is probably going to be the most important conversation around this.

So is a dietician. You have many different tools, right? From a dietary perspective, let's always some of these things you talk about weight loss, you talk about nutrition approach, and then you talk about the past.

I mean, we can diet, so so let's go there. You mentioned it. Nutrition is a powerful tool. And I start with that empowering patients to let them know all of this is completely in their control and to utilize these tools.

So the first thing I do is start with education and I educate them on healthy dietary patterns, like the Mediterranean diet. I also do an assessment of their healthy lifestyle systems and what is in place and what's working.

I look at gaps. What could be contributing to their healthy, unhealthy lifestyle? Is it is time a factor? Do they need to improve their time management?

Are they not getting enough physical activity? Are they not choosing the right foods and following these healthy dietary patterns? So I see where the gaps are.

And then we work on educating them on healthy carbs, proteins, fats, reading food labels. I really believe that's the foundations of nutrition. And then once we have a like a baseline or a foundation in place, I monitor.

And then I also you use additional tools like the fasting mimicking diet that can help boost weight loss, improve their health markers if their weight loss has plateaued, it's helpful as well.

And I think it also boost a lot of confidence, too, because the results are pretty remarkable in a short period of time. And so, yeah, I, I just build a strong foundation for them and nutrition and then use these additional tools.

So the most important thing I hear is that this condition is reversible through lifestyle changes. Yes. And that's such a important message here, right?

It's reversible. You got to take action right now. And Susan, you mentioned weight loss is critical. You mentioned the Mediterranean diet. But we also know that is challenging to be adhering to everyday lifestyle change.

Complications of untreated fatty liver

If our if our patients if our listeners could have done that from day one, they wouldn't have developed diabetes. Right. So now the way bag is again, the strict regimen of these dietary changes and this is where I feel the relevance of the fasting mimicking diet comes in.

And and Susan, can you tell us what what if fasting can diet? As many of our listeners have heard about this reference to the fasting mimicking diet from a research angle from beings being a student with Professor Walter Longo, tell us a little bit about the fasting that it can go through.

I think the five day diet is structured every day. Every day is carefully planned. So it's a diet that you get the benefits of fasting while still eating a minimal amount of calories between 700 to 1100 calories.

And it can help increase and boost metabolic markers, reduce waist circumference, promote weight loss and promote your health and longevity. And so it was it's backed by 20 years of research.

And I also like the diet because it's very structured. I know that it's safe. It's gone through clinical trials. I know exactly what my patients are eating.

There's been so much research and so much information in the media about the benefits of fasting, but I always worry about how are my patients fasting?

Is it safe? So I feel a sense of relief when I'm able to give them something that I know is proven to be safe and efficacious. So it looks like this this five day fasting is a precision medicine or a traditional position nutrition, as should say, that gives you the the benefits of fasting without actually going through the five day water only water only fast and structured meal plan. Right.

So so one doesn't have to actually go shop. You don't have to go figure out what to eat every day in the five day box. And a lot of people are maybe asking, is it the same as intermittent fasting?

Why can I just do intermittent fasting? Susan, You're mind is five day mimicking fast versus just intermittent fast. Do you see similarities or differences and and how do you differentiate that in the program that you run?

And there are different ways to fast.

Lifestyle treatment and the Mediterranean diet

So there's a52 diet, two days out of the way. You're eating 500 calories or less. Some people are fasting every other day and consuming 500 calories or less.

I like the fasting mimicking diet because you're not doing it weekly. You're doing it once a month until you reach your goal, and then you can do it periodically as a boost.

I think it's it seems to be more feasible for people to sort of have this mindset of, okay, this week for five days I'm going to be fasting and then I don't really need to do this until next month or I'm going to do a three month monthly cycle of this.

I think doing it every week, you can get a little fatigued. And I see that with patients where it's not feasible long term. I think that with the fat diet it sort of eases that fatigue.

So it looks like people have to kind of a schedule ahead a little bit. Right. So plan out what when that five days is going to take place. Now in your program, What do you do for people for the rest 25 days?

So I adjust their regular diet to go to a healthier dietary pattern similar to the Mediterranean diet. And so we start with that. We I model, I help them educate them on what a healthy diet looks like.

And once they are well established in that area, then we can introduce the fasting mimicking diet because I think after that the fast is just as important as those five days because you really want to maintain those results.

So I think if you have that baseline of nutrition education and then incorporate the fasting mimicking diet, it's much easier to transition after the diet.

That's fantastic. I know that as in in the academic centers, you guys always like the outcomes. You look at progress, you evaluate your program and that leaves.

You had also submitted an abstract right to a presentation for those to a potential donors. They have gone through the fasting mimicking diet. Is there something you can share with us?

Is it kind of public knowledge? Here's the way we have used the fasting mimicking diet and a few of our donors, and we've seen a reduction in 50 to 75% of their liver fat in 2 to 3 cycles.

That is, you've got to remember that. You've got to repeat them, you've got to repeat those numbers. Those are what did you say? It's a 50 to 75% reduction in liver fat.

In addition to fasting, mimicking diet, we've also integrated the Mediterranean diet as well. So I think those two factors have been the results have been extremely impressive. Yes.

This is this is really pretty amazing here in 2 to 3 cycles. You talk about 2 to 3 months period. Yeah, you're combining the five day fast moving diet and followed by a mediterranean diet pattern of eating.

You're able to reduce 50 to 70%. Yes. And that's okay. I'm in a really unique opportunity in a situation where we are evaluating living donors. And so we do this.

The MRI testing can be in the following month. It's okay. Yeah, I. Don't think there's any other clinical setting where they would do it so quickly, retest so quickly.

Wow. So do you find these donors to be especially motivated because they have somebody they care about, Right. That they want to get parts of their liver, too?

Are they, like super motivated or you think they're just run of the mill motivation?

How the fasting mimicking diet works

But there is another an additional layer of strong motivation because they're doing it for a loved one. But it is something that many of the donors will tell me.

I've been thinking about losing weight for a really long time and what a better opportunity than now. And they really think of it as, Wow, I get to help somebody I really care about.

I also get to help myself. You know, I'm improving in this process and so it becomes like this win win situation. It is. Women know that. That's amazing. So what kind of Well, this is interesting because low calorie diet, you could reduce weight, but there seems to be a very specific effect on the liver effects through fasting.

Right. So so maybe can you share with us on average how many pounds that people lose after two or three cycles? I mean. They're like. What is it number like.

Five to 5 to 7%, which is the target that we're looking for? Yeah, Yeah. So we're not talking about 20, 20 or 30% body weight loss. Oh, okay. Just like 5 to 7% can make a significant impact in your liver fat.

So so this is really the important point here, right? You don't have to be putting into a Herculean task to achieve a reversal of the of fatty liver is 5 to 7% of weight loss.

This combination you know in my mind, this combination of the five day with fasting that has a target specific target to the liver and then the modified Mediterranean diet could be a really great combination.

Right. Just 5 to 7% reduction, your body weight is able to lead to 50 to 70% reduction in the fat in the lyrics. This is amazing. It's significant. I'm like you said, you don't have to lose 20, 30, £40. Yes.

Even 5% will make a huge impact on your liver fat, your bloodwork, your health markers, your metabolic health. And I think with the fasting mimicking diet, another point that I wanted to add to was we also know the body composition.

So I can look at skeletal muscle mass. We don't see a reduction in that skeletal muscle mass. We don't want to see muscle wasting during the fasting or through any sort of diet.

And so I see a reduction in fat, the body fat percentage, and I don't see any any fluctuations with their muscle mass. Yeah, this is really a very important point right there.

The research studies with Fast and Die shows that there is visceral fat reduction. Now remember, liver fat is part of the visceral fat. So part of the fat that's in the organ system surrounding the organ system.

So there's clearly a reduction in visceral fat. So it's a fat driven weight loss. And number two is that you also will maintain muscle mass, a like a chronic low calorie diet.

Right? Is five day.

Comparing fasting approaches and program structure

The stress causes growth hormones to go up and the growth hormones then protect the muscle mass in contrast to a every day low calorie diet where the body is going to go to the muscle, the brain is fat and the body is going to go to the fat and burn as a source of of energy.

Right. So what I get and unique mechanism of action here, so this is a terrific news for for all listeners, type 2 diabetes, liver health, they go together This is a and when you do the same thing, when you when you introduce that intervention through the fasting mimicking diet and then through the Mediterranean diet, when you put it together, it actually treats both right.

It supports both conditions. What a great news there different. So at the at the Liver Donor center, how many what

is that? How many people are you helping each cycle?

I are you looking for blood donors? In other words. Healthy as we are, we're always evaluating our our program is growing. I think there's been a lot of outreach with donation nationally, too.

There's also even other donor centers looking to help donors improve their metabolic health. And that's been a really big conversation in living donation nationally.

So I think this is a really important topic. Don't organ donation liver fat. And I think the difference between liver donors and kidney donors is you don't have that safety net like you do with kidney donor kidney recipients and dialysis.

So it really is an urgent need to increase the number of liver liver donors we have nationally. And I think with interventions like the fasting and making out diet, I mean, I'm just glad that I'm able to provide an additional tool, nutrition tool for patients because sometimes just the Mediterranean diet does it, is it effective?

And so I'm able to bring in additional tools and resources to help our donors.

Results from donor patients and motivation

I think it provides and creates more opportunities for people. I can imagine this must be a fulfilling work that you're doing, helping not only people to receive healthy liver, but also helping the donors to actually take care of their own health.

This is this is a such a win win situation. I want to thank you. Yeah, Yeah, I can imagine. Yeah. Well Susan, I wanted to really thank you for all you do and the information you share is so relevant to our listeners and many for our listeners.

Many of them probably have not realized that there is this common origin, this metabolic syndrome that drives type 2 diabetes and also the fatty liver.

And not surprisingly, right. The path to return to true health is still fundamental, right? It's dietary. And and while we have this tried and true Mediterranean diet, there's been tested in so many different clinical trials.

Now we also have this emerging tool called the fasting mimicking diet in its various forms to help people not only to to reverse the insulin resistance, but also address some of many of these root causes of these metabolic conditions.

Well, thank you, Susan. I want to that again to just thank you for all you do here. If people wanted to learn more about what you do or about your deliver donor program or can they find out more about this exciting program.

We have a website USC Transplant Institute at Keck Medicine of USC I can be reached by email. My email address I can share with you. susan.kim2@med.usc.edu.

Closing remarks and contact information

I'd be happy to discuss this in more detail with any potential liver donor candidates with the. Thanks for having me. I think this is a really important topic, liver health, and I think I've been in a very unique situation to be able to see how quickly these changes can be made with just a few small changes in a matter of 2 to 3 months.

So thanks for having me and letting me share. Thank you. This will conclude our to this episode of Reversing Your Type 2 Diabetes Summit 2.0. Until next time.

Thank you.