Your Diet Key To Lowering Blood Pressure Transcript

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Introduction to the hypertension research interview

Welcome back to the Reverse Hypertension Naturally Summit. And today I'm really excited to interview someone who is kind of on the cutting edge of research and when we think about what does the research say about hypertension, how should we approach this from a lifestyle component?

What are the interventions that research actually shows are actually helpful and no one better to do this in someone who is really kind of deep dove into the research.

More recently is Dr. Justin Charles. How are you today? I'm great, thanks Laurie for having me. Well, I'm excited to share your recent research and kind of get into what does the science actually say about how we should approach hypertension.

So maybe we can get started with the basics of your most recent research article and speak to kind of what are the what does the evidence say about diet, for example, in hypertension?

Sure. So we were asked to write a review article recently for a Current Cardiology Report hypertension section and reviewing the evidence for plant based diets and hypertension.

One of our coauthors, Dr. Shivam Joshi, had actually written an excellent article just a year or two ago in the American Journal of Lifestyle Medicine, and I said, There's no way I can write a better article than then one by an established lifestyle medicine nephrologist.

Evidence for plant-based diets in hypertension

So we, along with several other coauthors, decided to summarize a really high level of what the current evidence says, and then really translate that into how can a busy clinician actually help patients adopt a plant based diet for prevention, treatment and reversal of hypertension?

So a lot of the cutting edge is really reformulating what we've known for decades, if not longer, about how to treat hypertension. And that's using a minimally processed plant, predominant diet.

So we wanted to show some of the more well-known evidence based diets and how, if you really distill them down to their key elements, work best as a minimally processed, plant based diet or a Whole Foods plant based diet, as we say in the article.

So the Dash Diet is probably one of the more well known the dietary approach to stop hypertension, and that really works quite well just as well, if not better than some of the leading hypertension medications with optimal adherence.

And when you look at that diet, a lot of people say, well, it's because it's a low sodium diet. But really it was originated to try to get all the benefits of vegetarian diets, but making them more palatable for the average consumer.

And when you look across sub analysis of diets like the Dash Diet, like the Mediterranean diet that we know so well and have a great deal of evidence, we find that the more healthful plant based foods they contain, the better people generally do.

So the cutting edge is really summarizing a lot of the more recent research, a lot of the more recent randomized controlled trials and high level data to distill down into what we know of the eat real food, not too much, mostly class.

So our job was easy. We were standing on the shoulders of the great people who came before us and really just highlighting that and what are the mechanisms of a plant based diet?

And the exciting thing that we added was what are the main principles of a healthy plant based diet for hypertension? What does that look like and how do you translate it into you have a patient in front of you in 7 minutes. Go.

Exactly. No, I think that's fantastic. So can you speak to the specific mechanisms of a whole plant based diet? Like what are these foods in particular that we should focus on, if any of is it just the general symphony of all these amazing nutrients that are occurring?

Or maybe you can just kind of highlight some of those foods that maybe come out in the research. Yeah. So we focused more on the overall dietary pattern than any one superfood there are certain drinks and foods like beetroot juice has been studied for hypertension as it's hibiscus tea and other forms of hibiscus.

But we really focused on the overall healthy dietary pattern of a healthy plant based diet. So getting your vegetables, fruits, whole grains, ideally intact, whole grains, legumes, nuts, seeds and avocados and avoiding the highly processed food, the animal products, meat, dairy, eggs, etc..

But we did focus on the mechanistic evidence for why a plant based diet works in terms of it has more of certain healthful components and less of certain unhealthful components.

So, for example, whole food plant based diets are lower in sodium and higher in potassium. They have adequate amounts of magnesium and calcium. Fiber, which is only found in plant foods, is high in plant based diets.

And that can affect the gut microbiome, which is an area of emergen research and shows beneficial profiles of patients who have more plant based diets on their gut microbiome and the bacteria that make up our digestive system.

How whole-food plant-based diets work

They're also high in natural nitrates rather than synthetic nitrates, which lead to colon cancer and other metabolic diseases, and then have numerous amount of phytonutrients that show benefits across a spectrum.

Or we eat that rainbow of fruits and vegetables. So it was less of the eat this one food and more make sure your balanced plant based diet that you're not adding processed plant based foods that are super high in sodium or saturated fat.

You're eating across the rainbow. You're making sure that you have plenty of potassium, magnesium and calcium, which most people associate with with dairy, but can be found especially in low oxalate greens and other excellent plant based choices.

So how we can really optimize this whole food plant based diet for hypertension, so it's already quite good on its own. Yeah, I like the word optimize.

It's kind of like people like, well, you need this way to boost your immune system to help optimize. It's the same idea and I like to stay away from the ideas super foods, but there are certain components of the plant based diet that we need to maybe highlight.

So, so speaking of so there's the positive benefits of a wholesome plant based diet. Can we speak a little bit more to what is it just the sodium of these ultra processed vegan foods?

Or maybe also speak to the animal products, what that's doing to cause hypertension or makes it less beneficial when they're still included in the diet.

Right. Right. So we actually the to backtrack a little bit, the way we got into writing this article is I wrote an editorial editorial along with Dr. Sarah Hall is a cardiologist at Yale.

I did my last residency. And Dr. Arthur Caplan, ethicist at NYU, on the moral imperative for plant based nutrition. And we wrote in that what are the harms of animal products beyond just what are the benefits of plant based foods?

So that's actually how we got invited to do this review article in the first place. So animal products one, the animal protein itself, the make up of animal proteins tends to be harder on the kidneys.

It tends to promote more inflammation and oxidative stress. And so even just the animal protein outside of some of the other components I'll talk about tend to promote hypertension, metabolic disease and overall poor cardiovascular health.

In addition, we know saturated fat is not good for the arteries, despite attempts at new looks on old data to try to prove otherwise. And then we have sort of some new players on the block like TMAO, which when we consume choline in our diet, which is often found in foods like eggs, for example, our gut microbiome translates that into this TMAO, which tends to be again inflammatory, pro pathogenic, causing plaques in the arteries, but interestingly in vegans or people who follow long term plant based diet, our gut microbiome is fortunately not as good at converting the choline into TMAO.

So if you gave a vegan steak, which I wouldn't recommend you do, they wouldn't make as high levels of TMAO. There's also there are synthetic nitrates.

Before that I mentioned things found in in deli meats and cured meats and other processed foods that tend to again promote hypertension, cardiovascular disease, certain types of cancers, and then advanced glycation end products, which basically when different parts of the body become caramelize and the vessels become caramelized, like happens in type two diabetes from high blood sugar when we consume them obviously from outside and animal products that can also again promote this cauldron of cardiometabolic disease.

So it's really not just enough to have more plant foods, though that's certainly beneficial, but minimizing the animal products and also minimizing the processed plant based foods.

There's been some great literature recently looking at as plant based diets become more popular, more processed, plant based foods become popular. So looking at not just a plant based diet, but a healthful, minimally processed versus an unhealthful foods with a lot of processed fake meats, etc.

Harms of animal products and processed vegan foods

, and they find consistently that healthful, plant based diets promote health, reduce your risk of diabetes, reduce your risk of cardiovascular disease like hypertension, whereas unhealthful plant based diets actually increase your risk.

So it's not just enough to eat plant based with some animal foods. If we really want to optimize, we want to have healthful plant based foods and minimize the animal based benefits.

And you mentioned in your summary of your report that you do developed a ten point dietary recommendation for patients with hypertension. Can you just highlight what those are?

And maybe help people understand? For example, when you say ensure sufficient consumption of dietary fiber, like how much dietary fiber, what are the best foods, things like that.

Right, right. So I will be completely honest that this was done by Brenda Davis, who's an excellent registered dietitian, a fantastic person, and would highly recommend looking at her work, her books.

She's she's an inspiration to us all. So she developed this ten point dietary recommendation for really how to optimize a whole food plant based diet.

So the first is make the foundation of the diet, whole plant foods. So make sure that you're including five or more servings of vegetables, four or more servings of fruit, three or more servings of whole grains, three or more servings of plant based proteins like beans, peas, peanut butter, one or more serving of nuts and seeds.

Plenty of calcium rich choices like nondairy yogurts, low oxalate greens. Think your broccoli, bok choy, kale soy beans and having generous amounts of herbs and spices within the table.

In the article there's examples serving sizes really digestible, pun intended for the people reading the article to understand what to do. As far as the second point, sufficient consumption of dietary fiber.

The general recommendation is about 14 grams per 1000 calories. So 25 grams for women, 38 grams for men, depending on your calorie goals. And fiber is only found in plant foods.

It's only found themselves with cell walls. Plant cells have cell walls. Animal cells don't. And I think about 95% of people are deficient in fiber. So it's really important to consume high fiber foods.

And if you're consuming a variety of healthy plant based foods, you will likely get enough fiber unless you're not eating enough. The next point is limiting sodium to less than 1500 milligrams a day.

And this is in line with recommendations from the American Heart Association, the most common source of sodium in the diet is from processed foods and restaurant foods.

Not the salt shaker, not salt added with cooking. So if we can get rid of the processed foods, especially those ultra processed foods, your deli meats, your potato chips, your pretzels, etc., we can really help people minimize their sodium intake and they'll get enough from what's naturally occurring in the fruits, vegetables, whole grains.

Look at nuts. So cooking at home is really important. One, there point for is minimizing the intake of added sugars so no more than 5% of your calories is added sugar or six teaspoons of sugar in a 2000 calorie diet.

And because we're not having foods with added sugar so that's not a banana which is naturally had sugar. This is adding teaspoons of table sugar, high fructose corn sirup, other processed sugars.

So it's still okay to eat fruit and naturally sweet foods, but avoiding those processed sugary drinks, sugary cereals, etc. point five is minimizing added fats and this is not saying that fat is bad.

Fat is one of the three key macronutrients we need, but we want to have helpful components of fat and healthful amounts of fat. So the worst offenders are the solid fat or trans fats, which are fortunately mostly out of the food supply but are solid fats, tend to be higher in saturated fats like your butter, margarine and shortening and tropical oils like coconut oil, palm oil, palm kernel oil, trying to minimize the use of oil, which is a processed food and use the least processed forms of oil that we can.

And also avoiding cooking oils with omega three rich oils not because they're bad, but because they oxidize and become unhealthy when we cook them at higher temperatures.

So when we're drizzling oil, which we should do sparingly, those omega three oils are helpful, but we should make sure we're using oils that don't oxidize at too low a temperature.

Otherwise, that creates reactive oxygen species and that's no good for our body. Speaking of fats, we also want to have plenty of omega three fatty acids.

So while those are found in fish, those are also found in flaxseeds chia seeds, hemp seeds and walnuts. Some people choose to supplement with direct sources from microalgae, which is where the fish get it from.

And if people are going to consume fish, which we don't recommend to at least avoid the higher mercury containing fish, because the last thing we want is excess mercury and pollutants in our bodies.

Quite seven is make plants your primary protein source. So we tried to write this article for all comers and didn't want to be too black and white. So at least promoting, minimizing the intake, if not completely eliminating, which would be ideal, and especially avoiding branded processed meats, whole eggs or egg yolks.

And if animal protein sources are consumed, select leaner options though again would be better based on the evidence to avoid them altogether. Point eight is having rich sources of antioxidant and anti-inflammatory foods at each meal.

So the deeper the natural occurring color of something is a good general rule of thumb for the antioxidant content. So think of blueberries. They're such a rich blue, they're almost purple.

A really great source of antioxidants. So our leafy greens are fruits, especially berries, lagoons, whole grains, especially colorful ones, nuts, seeds, sprouts, fermented foods, herbs, spices, green and herbal teas, a ton of phytonutrients, antioxidants, anti-inflammatory compounds, which tend to just generally promote good health, including for your arteries.

Point nine, which you've already mentioned, a debt is the way the highly processed foods. So that includes those ultra processed snack foods and also refined starches like white flour, white rice, white pasta, instead choosing for the more whole grain, minimally processed option.

And then we talked in point ten about nutritional adequacy, especially if some of those key nutrients I mentioned before for hypertension.

Ten dietary recommendations for hypertension

So for potassium having about 3400 milligrams for men and 2600 milligrams for women for magnesium, 420 to 430 milligrams for men, 310 to 320 milligrams for women and for calcium, a thousand milligrams unless you're a woman over 50 or a man over 70 when you should have 1200 milligrams and recommending that vitamin B12, which is not naturally present in most plant based foods other than nutritional yeast and fortified foods, vitamin D and iodine are often not reliably included in plant based diets either.

Making sure you get that in supplements or food that's fortified or special foods that are naturally occurring with those substances. So those are our ten points.

There's more detail than I shared and it's really written in a way, again, for the reader to be able to understand and apply it. And then we created a menu based off of those ten points.

And by we, I mean broader. So you can see some of the options for how can a day in the life be eating in line with this form of diet? Dr. Charles. So can you speak a little bit about implementation of testing?

You've mentioned a sample diet. How do you recommend as a physician and see patients? How do they embrace these type of things? Yeah. So I think one of the most common pitfalls is assuming that people don't want to or won't change and not bringing it up, which is really a matter of informed consent.

If someone had breast cancer and we said they don't really look like a surgery person, even though that's the first line therapy, I'll just offer them chemo.

You would lose your license and be on the front cover of the New York Times. But with lifestyle behaviors and especially nutrition, we will often say, I don't think that patient will change their diet and we won't talk to them.

So step number one is just bring up that nutrition is important even if you don't know the first thing about it or the recommendations, patients will review recommendations for their clinicians in high regard.

So just at least attempt to talk about it. Just like with anything, we can't change what we can't measure. So finding ways to actually assess diet with patients, we outlined a few in the in the article.

I tend to use a 24 hour dietary recall where you get everything that someone eat or drink in a day, whatever you use. Asking people generally about their diet, they will usually misreport, often unintentionally, on what they would like to usually eat rather than what they do usually eat.

And there are some excellent evidence based screenings that can be done in as little as 5 minutes, and then really getting into the basics of how do you do goal setting and talk to patients in a way where you're more of a coach rather than the expert, because patients are the ones who are experts in their own lives.

We have expertize in a lot of different things, but we don't go home with the patient, wake up with them and live with them every day. So helping them find their own motivation rather than our own a patient and figuring out where do they actually want to change, what goals do they want to set and how can they troubleshoot within their own lives?

So things like brief action planning, which can be done as a sort of a quick goal setting and 5 minutes or less, where you help someone identify a goal, you assess their confidence, you do some brief troubleshooting, get them to restate their goal and commit to it.

That can be really helpful as well as principles of motivational interviewing and we went to a great article actually written by a few colleagues of mine that looks more into brief action planning and motivational interviewing, and then some more basics of goal setting with smart goals specific, measurable, achievable, relevant, time sensitive, rather than general goals like I want to eat healthy.

What does that even mean? And setting nutrition prescriptions, just like we will prescribed medication. But if we prescribe the wrong dose or frequency, it doesn't work as intended.

Knowing how to set positive prescriptions, add three servings of broccoli four times a week for the next two weeks, and negative prescriptions cut back one soda a day, four or five days a week for the next month.

So we can give people really specific advice after we've done that initial understanding, their motivation and goal setting with them. So I really like the idea of the goal setting.

Can you speak a little bit because most of our audience will be on the receiving end of this? Sure. Maybe go to a sample of what what does it mean to have like a smart goal?

Like what? What does that acronym actually look like in a real life setting? Yeah. Yeah. And we actually do have a sample patient physician script that you can read through in the article as well once it's published.

So a smart goal. Again, specific, measurable, achievable, relevant and time bound. So using the example I said before, a lot of times people will say, first, I want to lose £10 and we try to direct people toward more process behavioral goals rather than outcome goals, which can be very multifactorial and say, okay, well, what keep I want to lose £10 in my back pocket, but what are you going to change to get there?

Well, food. I want to eat healthy. Okay, well, that's a very general goal. It's very vague. What is healthy even mean? There's no way we can measure it.

I have no idea if you can do it, because for something about it. So let's make it more specific. So are there any foods you want to eat more of or eat less of?

Well, I don't really eat vegetables. Okay, great. Are there more? But are there any vegetables you like? Well, I like broccoli. Okay. So how much more broccoli do you want to eat?

When do you want to eat it? What are all the details? How do we turn this idea into something that can become an

action plan? And to fast forward to the end, the final goal could be, I want to include broccoli in the soup I make every week, which I eat four times a day.

And I'm going to do that in that once a week I cook for the next month until I get to meet with you again. So now we've turned. I want to eat healthy into a very clear, measurable goal that's relevant to what a patient wants to do.

And we have a clear plan in place and a plan for follow up so we can check in with them. Yeah, I like to see. So it's almost like you're taking the theory and the thought and translating it to the physical and the reality of what needs to happen.

Exactly. It really gets to the saying, you know, if you fail to plan, you plan to fail. And so that's and I. Like that. Because it's very, very important.

Then you know, that to your other point, you know, what's not measured is not managed. It's very, very, very clear. I think there was a study I don't recall it's been a while since I read it where they looked at registered dietitians doing a recall and they were off and calories.

It was a calorie recounts and dieticians know how many calories are include all 5000 calories a day. Wow. And so if you have someone who's educated and literally this is what they do for a living and they're off by a thousand, imagine the lay person who is less informed about the caloric advantage. Yeah.

And what we're trying to recall so I love leaving that will documents while they're doing it for sure.

Implementing nutrition counseling and SMART goals

And not to mention a lot of times people will just go into counseling before understanding anything of what a patient's doing they might already be doing a lot of healthful things.

And so you're going to be giving them unhelpful recommendations and then making it invalidating their experience and all of their positive were. One thing I will say with this is we don't want to over inflate and tell people they're doing good things when they're not, but trying to identify and bring up explicitly what people strengths are is a really good way to motivate them, improve self-efficacy, improve their confidence and say, wow, you know, since we last spoke, I know you're not eating as healthy as you want, but you gave up soda and that's not easy.

Good job. If you can do that, I have no doubt you'll be able to do your next goals. Just see the look on people's face. When you tell them they did a good job with something.

It's really great and it can really change the dynamic. Yeah. No. Well, we're. We're our own worst critic. I think all of us have that voice inside of your head telling ourselves that what we're doing is failing all expectations, when in reality we're actually doing a phenomenal job and people don't understand it.

But I like the idea, too, is that, you know, as a physician, we need to help the patient. But we're the guide, not the hero. Right? We're not the hero in this story.

We're we're just here to help someone come along their journey. And when they trip and fall, we're here to help get them back on their feet and get them out running again.

But yes, so many points here. But what I love about it is that you're a young physician, informed physician, creating opportunities and checklists for action items for physicians.

I think that's the one thing that I found that over time with some medicine is we really need these on a checklist of simple actual items for doctors to have these conversations with physicians like our patients, how do we prescribe medications?

That's another big area that I feel is really large. And how I approach it is honestly, it's trial and error. My own

experience. And so this is really nice.

I love checklists, my patients love checklists because it's like you're like, okay, these things I need to do everyday, okay? And then they wrap their heads around how they can do it.

Like it's almost like you need the diagnosis before you can even implement a plan of treatment. Like I need an executive now I can create the plan. This is the most helpful thing to do is I.

Give a scaffold instead of just go that way and make a left and to everybody else. Exactly. Yeah. There's so many ways to approach this, but this is a really valid, strong way to do it.

It's very, very doable and usable and simple to implement in practice. And then patients can embrace it and do what they feel based on their values, make the decisions that they want to do.

And that's the other piece is I think as physicians accepting that people will always do what we're encouraging them to do is kind of like you lead a horse whereby you can't force them to drink.

That's okay too. But you've done your due diligence and you're not being, I think, medical negligence like you were mentioned earlier, you're not going to withhold options of treatment when you when you've taken your perspective, said you're already made the decision for the patient.

You're taking away their self-efficacy and their ability to make those decisions for themselves. So I think that's the model that you mentioned, that that's a really important point.

We don't want to take away our autonomy. And Dr. Beth Motley, who is a mentor of mine, would say teach 100% and then meet someone where they're at. So we're giving people, hey, if you want optimal.

Here's what I would recommend. Generally based on the evidence. But not everyone wants to choose that I will work with you no matter what you decide to do.

What are your thoughts? What are you willing to do? And if we miss either one of those components, then we're either essentially withholding valuable information or we're making people think there's an all or nothing decision they might have wanted to go 50, 60, 70, 90% of the way, and then we're being too black and white and not really helping people along that beautiful, colorful spectrum in between.

Absolutely. I think we try to operate in absolutes because it's comforting to think, look, we've done the absolute right thing and told the we have to be okay with uncertainty and understanding that people aren't going to always want to do everything we're recommending.

And sometimes that recommendation will change over time as evidence becomes more forward with research. And we have to be okay with that too. So yeah, yeah.

It's a great way to approach medicine, so thank you. Yeah, this is. Great time with this. This is great. I'm sure everyone here who's listening will find this super helpful and definitely it will be in What's the Journal again?

So it will be a Current Cardiology Report in the Hypertension Section and we're fingers crossed working on having it be open access so more people will be able to read it, but still TBD.

And we'll find out in the coming weeks. Perfect. We'll thank you again for doing that work. And I know it's not a fun thing to go looking and reading, writing the reports and all that.

It can be quite a stressful event trying to get something published. So yeah, I had fun though. It was a good team and it was a really interesting project and the best way to learn is through teaching.

So I really gained a lot from it. Yeah. Watch one, do one, teach one. That's how you do. Oh, yeah, absolutely.

Because I get to medical school. All right. Well, thank you again, everyone, for listening.

And we hope you find this insightful and we'll see you in the next conversation. Take care.