Unmanaged BP: Risks You Can’t Ignore Transcript

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Introduction and hypertension overview

This is Dr. Talks, real talk from real doctors on the issues that matter to you most. Welcome back. And today I'm very honored to have Dr. Kim Williams, who is the past president of the American College of Cardiology and the current chairman of medicine at the University of Louisville.

And if ever there's an expert that I would trust regarding anything cardiovascular, it's Dr. Kim Williams. So thank you, Dr. Williams, for joining us today.

Thank you so much for having me again, Dr. Marvis. Absolutely. So funny for you to call me Dr. Morris, but we'll jump right in. And today we really want to highlight for you, if you can help us understand what happens when there's uncontrolled hypertension, because so many times there's not symptoms, but if maybe you can just give us some insight on what that would be.

And maybe to start with, how does prolonged high blood pressure kind of physiologically damage the body's organs and systems over time, would you say?

Can I just introduce it with sort of an important statement of why you're asking this and what the impact is. If you look at leading causes of death around the country, around the world, it's food and nutrition that outranks everything else.

But if you don't do lifestyle and you look at disease states, it's hypertension. It's over 70% of all Medicare beneficiaries, the expenditures. This is a serious disease with serious impact.

And it doesn't just kill people, it disables them. And so people end up with hypertensive nephrosclerosis, meaning that they lose their kidneys, or a hypertensive stroke, or hypertensive heart failure.

And the aneurysms and peripheral artery disease, every blood vessel disease is accelerated. The blood pressure, just think about it for a moment, what happens to the heart.

If you look at your weight lifters, all the muscle gets really thick and Arnold Schwarzenegger can win the Mr. Universe contest. But if your heart muscle, see that skeletal muscle, if your heart muscle goes against a weight every beat, and the blood pressure is greater than 130.

It actually does get thick. It does get muscular. The problem is that the heart isn't designed for that and it will ultimately outstrip its blood supply, leading the patient up for rhythm disturbances that can be fatal.

And that thickening of the heart makes the heart stiff. So people will get shorter breath when they try to walk around, okay? So-called diastolic dysfunction or heart failure with preserved ejection fraction because it's not a squeezing problem, it's a relaxation problem.

How high blood pressure damages organs

Squeeze fine, relax slow. And so the pressure backs up into the left atrium and then that ends up in the lungs and people do not feel good trying to exercise.

Well, If you put all of the complications, kidney, brain, heart, together, this is a devastating disease. And if I could get everyone to do one thing, it would be a whole food plant-based diet.

Why? You know, we used to think based on a lot of trial evidence that this was all about sodium. And there are some sodium-sensitive populations, and perhaps African Americans are more than others sodium-sensitive and

respond to diuretics that way.

But it's more than that. is the fact that when you eat a whole food plant-based diet, you're actually going to ingest fiber. That fiber gets fermented in your gut by promoting good bacteria, which then ferment the fiber and set you up for a larger degree of bloodstream short chain fatty acids.

That's acetate, propionate, butyrate. Nobody wants the chemical names, but the fact of the matter is those are really good for blood vessels. And if you had bad bacteria, like I know there are still some, despite everything that you and I have done, there are still people out there with dead bodies in their refrigerator.

And then they take those dead bodies out and actually consume them. And when you're eating decaying flesh, you're actually changing your own microbiome.

That is the bacteria in your GI tract. And we actually now have, if anyone can search this out, Go to your search engine, put in hypertension, microbiome, and you'll see all this literature pop up about which species, Klebsiella, for example, that when it's in your GI tract in large numbers, it contributes to blood pressure elevation.

And then there's some other species, bacterioides in particular, that when you have a lot of those units, it actually lowers your blood pressure. Now, it just so happens that that's true of almost all the cardiac risk factors, diabetes, obesity, the high cholesterol.

All of them are really improved. And inflammation, I don't want to leave that one out. All of them are really improved by changing your microbiome. Okay.

Yeah. That answers a lot of questions. And so what, no, it's fantastic. You are a wealth of information. So anytime I've ever had you on interviews or spoke to you, it's, it's beyond my expectations, but can we get to what happens with uncontrolled hypertension like you kind of mentioned with the heart excuse me at the heart and the backup but is there anything else you know like besides the kidneys you kind of mentioned it briefly other organs that we should be aware of the brain for example like what's happening exactly So let's talk about them one at a time.

In the brain, the most common finding that if you were to do an MRI study or CT studies, you'd find in the report chronic vascular disease, meaning small blood vessels, what they're really pointing out is that they're little pieces of the brain that gets damaged when your blood pressure is not controlled.

and you'll get tiny little hemorrhages, so-called lacunar infarcts. It's a part of the brain and people will lose their memory and they'll lose their cognitive function and have a higher incidence of dementia.

And they're really losing their lives, they're losing their personality and their ability to get around and do things and live independently. It has so many issues.

Then on top of that, then there's strokes. And these are catastrophic events. And people will think that, oh, they just bleed into their brain or they create aneurysms and the aneurysms bleed.

Weakness in the wall because the blood pressure has destroyed the blood vessels of the brain. Well, it's a little bit more than that. You can actually promote more plaque in the brain and then the blood pressure can actually break a plaque.

And when that plaque breaks off, whether it's from the carotid or any way all the way up, you'll end up showering plaque material into small blood vessels.

And the tiniest, tiniest clot can stop you, if it's in the wrong location, can stop you from speaking or stop you from moving. And hopefully with rehabilitation, change in diet, control the blood pressure, you can actually get better.

But the biggest risk factor for stroke is actually having had a prior stroke. That's because most people are not changing their lifestyle. They're not doing the things that would stop them from being in that position again.

So that's the brain. The kidneys major issue for cardiology, believe it or not, because once the kidneys start to go bad, they can't excrete the poisons that make plaque happen in your coronary arteries.

You can't excrete enough fluid. If you're an end-stage renal disease without dialysis, you can't get enough fluid off to lower the blood pressure. And so it's like the kidney is the thing that keeps everything going.

so that the heart can do its job. And so you see a lot of people with chronic kidney disease that don't understand and it's really beyond understanding based on the current literature that says that the vast majority of our chronic kidney disease is produced by the consumption of animal protein.

and that plant-based protein will improve your kidney function. And it's more than just that old thing of, oh, your creatinine, the measure of your kidney function improves because you stopped eating creatine when you stopped eating animals.

It's more than that. And so we need to do more sophisticated tests such as Cystatin C so that people can actually see, yeah, I went vegan and my kidneys really did get better, not just the number getting better.

But either way, what you see with chronic kidney disease is this terrible slow progression and rise to you end up on end stage kidney disease. You go from stage one to two to three to four to five, and then you're on dialysis for as long as you can survive dialysis.

Brain and kidney complications

Well, that doesn't have to happen. And you have, this isn't just our International Journal of Disease Reversal and Prevention saying this, although we do have articles to that effect.

We're talking National Kidney Foundation, Journal of Nephrology. These are mainstream journals begging people to stop overloading the kidneys with the acid load that comes from animal protein.

And so I'm hoping that anyone who has any hint or knows someone or knows a nephrologist point out to them that a whole food plant-based diet can be not just life-saving, but dialysis saving, kidney saving.

Okay, so you're ready for the heart? Okay. So an interesting part about the heart is that it's made up of a bunch of stuff. So you have, I always liken it to a house to try to explain it to people if they haven't taken gross anatomy and say, well, your heart is kind of like your home.

It's got doors. That would be the valves. Okay. It doesn't have any windows, I hope, but some people do have windows between the rooms. And that would be congenital heart disease, having a ventricular septal defect or patent foramen ovale, which is actually pretty common in the, in the atrium.

You know, a clot in your toe could end up in your brain if your window isn't closed. But then you have a plumbing system. That's your coronary arteries that feeds the oxygen to all the muscles.

And then you have your electrical system, and that is the rhythm generation. But then you have the walls of the heart, and they can get really thick. And those doors can deteriorate over time and not close well or not open well.

Well, it turns out that high blood pressure or hypertension can ruin pretty much all of those things. How in the world does it ruin an electrical system?

By making the muscles so thick that all the electrical activity cannot do a coordinated fashion. And you look on an electrocardiogram and you see so-called intraventricular conduction delay.

that if your muscle isn't beating all at the same time, then it's not all relaxing at the same time, which means that you can set up rhythm disturbances.

Then how about the doors? If the blood pressure is really high, it tends to really affect the aortic valve. That's the main valve that goes out to the body, and it also affects the aorta.

That is where that valve is leading the blood to to distribute blood to the entire body and you end up with aortic dilation and that would be enlargement.

Well, and if you're really fortunate that you know that gets caught and you get on blood pressure medicine and it can actually regress. If you're not so fortunate, you can get what's called a dissection where that aorta actually tears.

And so that usually is catastrophic, very painful, very difficult to manage. I do have a patient who survived their dissection because they happen to be in the emergency room about something else when it happened.

Oh my goodness. Yeah, that's to say it's not all that survivable when it happens. But some people have a chronic dissection, but the acute ones are very, very tough.

Okay. So that's the valves, that's the aorta, but how about the muscle itself? As I mentioned, if that gets really thick, the blood supply, that is the pipes, can't feed it enough blood to stop, to keep the muscle healthy.

You end up with scar tissue, scar tissue results in truly more rhythm disturbances. And so Let me go back to Framingham back in the 70s and Daniel D. Savage, one of the first academic African-American cardiologists, his big contribution before he had a premature death was the identification that the so-called left ventricle hypertrophy or thickness of the main pumping chamber, the left ventricle, is a huge risk for sudden cardiac death.

And so the blood pressure does promote sort of with sheer forces, more plaque generation in the coronary arteries. And so if you add all that together, you have a situation where that overload can ruin the blood vessels, ruin the electrical system, ruin the anatomy, the bowels themselves, the muscles start to deteriorate, thickening is only the beginning.

Ultimately, the heart would start to dilate. Okay. And you'd end up meaning enlarge. And so you end up with heart failure that is reduced pumping as well as the poor relaxation.

So I know that's a lot to take in, but you basically, everything that the heart is supposed to do can be ruined by uncontrolled high blood pressure. So then what about some other things?

Is there anything else like fatigue or mood or sexual function, vision, anything else there that can be affected by the hypertension? So those are good points.

That is the sexual function tends to deteriorate as you develop more plaque, but they're also, you know, the fact that there are some medications, diuretics and high doses can impair sexual function in men.

Beta blockers don't, they have a bad reputation for not being good for blood pressure anyway, but they're fourth or fifth line, but people still use them on occasion.

If they're on other drugs, maybe that's okay. The beta blockers tend to lower the libido rather than causing erectile dysfunction, for example. So a rumor mill that blood pressure medications can ruin sexual function is sort of true and not true.

When you talk about the eyes, yeah, there is such a thing as hypertensive retinopathy, and I've had family members with uncontrolled hypertension end up blind.

And so hemorrhaging into the back of your eyeball is a risk. It doesn't happen very often. I'm sorry, it happens a lot, but it's usually not catastrophic.

Occasionally, it really is. So, look at so many organs. They're all dependent on good blood flow and good blood

vessels, and they all can basically be ruined by blood pressure that's not controlled.

Well, one more question about the uncontrolled blood pressure. Are there any physical warning signs that maybe someone should be aware of?

Heart damage and cardiovascular risks

Because maybe someone doesn't go to the doctor very often, but is there anything that they should be mindful of physically or the thing like, hmm, maybe I need to go get my blood pressure check to be seen?

So the interesting part is people, sort of the lay population will tell you, oh, I know my blood pressure is elevated because I got a headache. That's actually accurate in a tiny number of people.

It's usually, they call it the silent killer for a reason because people don't know their blood pressure. They don't realize it's elevated until something happens.

So what happens? The fatigue is probably not as common as the shortness of breath. feeling like you can't get air when you're trying to exercise or trying to go up a flight of stairs with carrying groceries.

And that has to do with so-called the diastolic dysfunction or heart failure with preserved ejection fraction from the thickness of the heart. So people, unfortunately, if you wait for symptoms, something has happened already, something not good, and all of your blood vessels are at risk.

So we would actually recommend, it used to be Life's Simple 7, now it's Life's Essential 8, where everyone should be monitoring their blood pressure, not just in the office, but at home.

Why? Because office pressures can be inaccurate. They can be an overestimate of what the real pressure is. And unfortunately, in some populations, it could be an underestimate, so-called mass hypertension of what's really going on at home, if there's life issues at home.

So know what your blood pressure is. Get your blood sugar checked. Get your cholesterol checked. Make sure that you're maintaining an ideal body weight, not smoking, exercising.

and making certain that you're getting enough sleep, as well as doing drum roll, a whole food plant based diet. So that would be, you know, life's essential eight.

Perfect. And I think that's a great way to, at least in this part of our conversation. So I hope you guys found this to be enjoyable and inspirational and insightful.

And if you're a summit purchaser, stay right here because we're about to dive in even a little bit deeper into this discussion. And if you're not click on the button below or to the side and get access to the rest of the conversation.

And if you're watching this, thank you for being a valuable member of our community. And let's continue the conversation with Dr. Williams. So Dr. Williams, we kind of just spoke to life's essential eight.

So let's talk about, you know, when someone is on hypertensive medications, like, what does that look like? How do they get started? And then when these hypertension medications aren't working, can we speak to a little bit more about what's so special about a plant-based diet or other lifestyle interventions that might be helpful in treatment?

So why don't we start there, so-called resistant hypertension. I'm convinced after 44 years of academic medicine that there probably is no such thing.

There was some hints at that in that there were a handful of randomized trials about renal denervation catheters where you could actually go up into the veins that drain the kidneys and burn with radiofrequency the nerves, and

it's supposed to tell the kidneys to stop sending out anything, any of the hormones that raise the blood pressure.

And the interesting thing is that the procedure does work, but it never has the big impact because the control group and ends up having good blood pressure control because they're going to a doctor for the study.

It's hilarious. And so you end up with this minor difference in so-called resistant hypertension. It would define as someone having an elevated blood pressure that won't go down on three different drugs.

Well, if everybody is at inherent, they actually do pretty well. But the beginning of what you mentioned is probably the most important thing that we could learn about blood pressure.

And it is embedded in our 2017 American Cause of Cardiology Hypertension Guidelines, and that is lifestyle. We should drop our sodium, increase our potassium, decrease the saturated fat and cholesterol in the diet.

We actually try to exercise on a daily basis, trying to get up between 150 and 300 minutes a week of dynamic exercise, cutting the amount of alcohol completely if you can, and approaching an ideal body weight.

Lifestyle really does make a difference. And if you add up all of those things that I just mentioned, the literature for each one of them would be five or 10 millimeters of mercury.

You put them all together, you're talking about 45, 50, 60 millimeters of mercury, and who needs medication? The people who won't make the lifestyle changes.

But the good news is, we do have good medications.

Symptoms and warning signs

And so how it starts is that someone will go to a doctor, go to an emergency room for, you know, because they hurt their ankle or something and find that the blood pressure is elevated, get referred in.

If the blood pressure is more than 180, they should be started drugs right away. Even if it's a pain response, you could argue about the 160s. But ultimately, people are going to be followed up.

The most important thing of that follow up is to immediately go and get a blood pressure cuff and measure it every day. And if it's still markedly elevated, call somebody right away.

Don't wait the week or the two weeks that it takes to get you in. But ultimately, our recommendation would be to always measure your blood pressure before you take your pills.

You know, you have the COVID, you got to get a new variant. And you might not even feel that you had a fever. It might feel just like a cold or anything like that, but actually you got dehydrated and your blood pressure is 90 over 50. And then you're taking your blood pressure pills?

No. And so I'm always, but the other side is way more common. And that is the medications are being taken, the lifestyle is not optimized, and the blood pressure medications do not have you anywhere near your target.

And in that case, you do take your pills and you call the doctor and say, hey, my blood pressure is 160. I know you told me it should be less than 130.

And notice I'm only talking about systolic pressure. We kind of gave up on diastolic because it wasn't so helpful. So that's really what it looks like.

Start with home blood pressures, write them down, send them to your doctor. Everybody's got to, by law, they have to have a portal with their electronic health record these days.

And so free communication of a lot of numbers is the thing that's going to get you under control. So just to speak to, let's say someone was hypertensive, is on medications and they start a whole food plant-based diet.

They start exercising and utilizing all the lifestyle components that you mentioned. How long does it take to see improvement? And what about those who don't see an improvement?

Is there something special or something that we need to be focused on more? And maybe is it what is considered an ideal weight? Maybe it's something like that, but what is your recommendations there?

So there are people who do not respond and sometimes they have a so-called secondary cause such as renal artery stenosis. It's a fancy term for the blood vessel that feeds the kidneys having plaque.

or so-called fibromuscular dysplasia, which is sort of the artery wall has muscle, and if that muscle overgrows, it can create a narrowing.

Lifestyle treatment and blood pressure management

So the blood pressure in the kidney might be 70, and the blood pressure in the body, because the kidney puts out hormones to raise the blood pressure, because it thinks it's going to die, it thinks the patient's going to die, the blood pressure is 170. And so the kidney is trying to preserve itself and preserve the body, not realizing that on the other side of that narrowing, the blood pressure is extremely high.

So you do have some resistant conditions that are so-called secondary hypertension, and there are a handful of them, elevated cortisol, elevated catecholamines with so-called pheochromocytoma.

The vast majority of our secondary workups are negative. You know, I've been, like I mentioned, I really mentioned doing academic cardiology for 44 years.

I've seen like four of them. tumor and things get better. So there are conditions, but most of the time people are going to respond because the so-called essential hypertension is mostly diet, overweight, and lack of exercise.

So we fixed the lifestyle. But I think what you're getting at is how effective can it be? And some are going to be, like I mentioned, it might be 45 or 50 millimeters of mercury off of someone who's really hypertensive who does everything the right way.

Are there any particular foods that you like to emphasize over others on the whole food plant-based diet? I would have to say, after reading about in our journal, arugula, rocket, I never really liked the taste of it much, but I like it a lot more now that I know that the nitric oxide and vasodilatory capacity of it is really good.

But I have to tell you personally, you know, being African-American and having a stressful transition from being, did I say this out loud? At University of Chicago in college, I was playing so much tennis and I would study on the side.

Medical school. You can't play your way through medical school at the University of Chicago. And so I had this probably somewhere around an octupling of my academic time, how much time I was sitting and reading and studying.

And the tennis was not six hours a day. It was like one hour a week. And under that kind of pressure with a family history of hypertension pretty much coming and going in everybody, I had a blood pressure of 140 over 90.

And I was already, so a vegetarian, okay, but I was doing the, you know, oval lacto kind of vegetarian diet. Well, I made a specific choice based on my physiology books to actually cut the sodium.

It had a dramatic effect. I got my blood pressure at 125. Fast forward about, goodness, 20, 25 years, when I learned about my cholesterol being elevated and went on a whole food plant-based diet, 125 went down to 104. And so the blood pressure improvement is dramatic.

So that's my personal blood pressure story. But the ones that have impressed me the most are the people who did not do what I said a few paragraphs ago, which is measure your blood pressure every day.

And I would see people more than once. They're passing out in their car. One of them made an appointment to his primary care doctor, instead of calling me, made an appointment, said, I don't know if these medications are working.

I'm feeling so terrible. And got his blood pressure measured. And it was 78 over 40. And the doctor said, well, what are you doing? And he said, well, Dr.

Williams put me on a plant-based diet and a medication because my blood pressure was 160. And the doctor actually told him, you need to eat meat so that you can take your blood pressure medicine.

What? No, I didn't. You really did. Oh my heavens. Oh, so anyway, we have some learning to do in our physician community, but ultimately we straightened the patient out.

He ended up off of medication because the plant-based diet had dramatically improved his blood pressure. Reminds me of patients and I've had more than a few who start a plant-based diet and their endocrinologist or other doctors will say, eat more sugar so you continue your insulin or your diabetic meds.

You're like, it's kind of like you're missing the point here. That's right. Cut them down. Well, as you know, absolutely. Certainly you cut them and that is the art of plant-based medicine and plant-based cardiology is de-prescribing.

There's not a lot of books on it. You have to learn by doing and just logic. And, you know, I call it kind of positive collateral damages when you have someone, let's say like your patients and maybe they were doing the cooking and they got better, but maybe a family member also had hypertension or diabetes.

They also get better. So make sure you tell those who are living in your home and still they could get better too, because I've definitely seen medications need to be decreased in found members who were not patients.

So. Absolutely. Well thank you everyone for listening and thank you Dr. Williams for again spending your time with us today and I'm sure it was very insightful and informative for many people.

It was so much my pleasure. Thank you for tuning in to Doctor Talks. We hope today's episode has enlightened and inspired you on your path to optimal health.

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