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www.reachmd.com
info@reachmd.com
(866) 423-7849

Nutritional Strategies for Managing IgA Nephropathy

Dr. Turck:

Welcome to *Clinician's Roundtable* on ReachMD. I'm Dr. Charles Turck, and today I'm speaking with Ms. Jennifer Moore about how IgA nephropathy can impact a patient's diet. Ms. Moore is a registered dietitian who specializes in renal nutrition. She's also the author of *Plant-Fed Kidneys: The Diet to Slow Progression of Chronic Kidney Disease*. Ms. Moore, thank you for joining us.

Ms. Moore:

Thanks for having me. I'm excited to be here.

Dr. Turck:

Well, to start us off, Ms. Moore, would you provide a little bit of background about how IgA nephropathy affects kidney function?

Ms. Moore:

Probably what we should talk about first is just basic kidney structures. So everyone has two kidneys, and they have functional units in those kidneys called nephrons; the nephrons are filters called glomeruli, and in the glomeruli, you have a basement membrane. I just want you to keep these structures in mind. The glomeruli are clusters of capillaries that filter out toxic waste and excess fluid into the urine, but then they also keep things in our body that we want or that we need, such as red blood cells and protein.

Now, IgA nephropathy is considered a rare disease. IgA is just a protein antibody. It's part of our immune system. But IgA nephropathy is when the body produces an abnormal form of IgA, which causes inflammation and damage. So this damage includes the part of the glomerulus that I told you about just now—the basement membrane, which is a barrier. So this barrier should keep protein in and filter out things that we don't want. If you think of it almost like a colander—if you're washing your grapes, the colander should keep the grapes in and let the water out. If your dog chewed that colander and it had bigger holes in it and the grapes were falling through, that's when the protein falls through the kidneys, causing proteinuria. So that's a visual to see what happens when this basement membrane is damaged. But the problem is this can be a vicious cycle. So, kidney damage can cause proteinuria, but proteinuria also causes kidney damage, so it's kind of cyclical; but eventually, there can be scarring, which leads to irreversible kidney loss.

Dr. Turck:

And how can IgA nephropathy influence a patient's dietary needs?

Ms. Moore:

The first two nutrients that I really talk about with patients are protein and salt. So protein—what we want to do in kidney disease is we want to lower the amount of protein and change the type of protein. So why am I so worried about protein? Well, there's three macronutrients: carbohydrate, protein and fat. The only one of these three that has nitrogen in it is protein, and kidneys have to filter nitrogen waste. So if you think about your labs, a way to connect this would be blood, urea, nitrogen—that's one of the labs you look at. Because proteinuria, as we've already discussed, is a big deal and causes increased damage and faster progression, then we need to get on that fast if you're spilling protein in your urine.

The other problem with proteinuria is that it can contribute to protein malnutrition, and because of this, there's this misconception that we need more protein because we're losing protein—but that's false. The more protein you eat, the more proteinuria. It makes it worse, particularly animal protein. So high animal protein in particular causes higher intraglomerular pressure, which damages those capillaries; we certainly don't want to damage cells, we don't want to damage capillaries, and we don't want to damage that basement membrane.

Another problem with the type of protein—we want to focus more on plant proteins, less on animal protein, because animal protein will

also contribute to acidosis. So one thing that your kidneys do is they maintain acid-base balance in the body, and so if your kidneys are damaged, we don't want them to have to work harder. We want to make their job easier. And so they would have to work harder to correct acidosis from animal protein.

The next nutrient we're going to talk about is salt. So why do we care about high salt intake? Well, salt intake can raise blood pressure, and it also pushes blood through the kidneys. High blood pressure pushes blood through the kidneys at such a force that it can damage them, increase the proteinuria, and then cause further damage. Also, kidneys remove excess fluid from the body through pumps called sodium-potassium pumps, so high salt intake can cause this to be imbalanced, causing fluid retention and edema, which now we circle back to blood pressure. That is going to increase blood pressure. It's all a cycle.

This is an autoimmune condition where the buildup of IgA in the kidneys results in inflammation. So you've got that abnormal IgA protein that built up in the kidneys resulting in inflammation, and we want to lower that. So what can you do with your diet to lower inflammation? Well, what we want to do then is neutralize what we call oxidants or free radicals. An oxidant is just an unstable cell in your body. Everybody gets them. You can get them from exercise and eating normal things in life, but also, because your kidneys are damaged and there's more toxins in your body, you tend to have more inflammation and more oxidants. So what do we need then? Antioxidants. Where does that come from? It comes from our diet. Well, in the diet, how do you know if you're getting antioxidants? There's something called an ORAC scale. And the ORAC scale will tell you foods that are high in antioxidants. You can go Google this. Some examples would be things like acai berry; it has a score of 102,700, so that means it's really high in antioxidants. Spices are super crazy high in antioxidants; for example, cloves have a score of 314,446. Now, in contrast to this, animal products like a chicken leg only has 650, so you're not really getting antioxidants from animal products. So again we're cycling back to the reason why we want more plants, less animal protein.

And then the last part in answer to this question would be around heart health. So when kidneys aren't functioning properly, the way the body handles lipids also changes, and so this is especially true with protein-spilling diseases like IgA nephropathy. So circling back to inflammation, we definitely want to keep the inflammation down because cardiovascular disease is two-fold. It has to do with inflammation, and it has to do with lipids. Inflammation can damage the lining of the arteries and veins. But when it comes to lipids, we definitely want to limit saturated fat. The only plant-based saturated fats are coconut oil and palm oil. The rest of the saturated fats—the way you know it's saturated is if it's solid at room temperature, and that is going to be in animal fats. So also we want to boost fiber from plants because fiber can act like a broom to sweep the cholesterol in the arteries and veins. And then as we discussed, we want to lower inflammation.

Dr. Turck:

And what role does the gut microbiome play here?

Ms. Moore:

Let me just give you a little bit of background on what the gut microbiota is and on how we affect it. So there are terms called prebiotic, probiotic, and postbiotic. Prebiotics are things that you eat that will affect the gut. So anything you put in your mouth is going to affect your gut microbiome. Probiotics are beneficial bacteria. They can be in your gut, or you may have heard of probiotics in things like fermented foods or yogurt or something like that. And then a postbiotic is whatever you eat that the gut—all those microbes in there—produce products. We call these metabolites. And whatever they're producing can affect your kidneys. For example, if you eat fiber, which is a prebiotic, it causes the gut to produce anti-inflammatory metabolites, things like short-chain fatty acids. So now we've circled back to inflammation. A healthier gut will lower inflammation. High animal protein intake causes your microbiota to produce metabolites that are kidney toxins.

The largest gut study ever done is called the American Gut Health Project, and it's really simple. So it had numerous participants, and what they found was that the more different plant types a person eats, the higher the biodiversity of the gut, and so what they said was—and I don't want this to throw you off—someone eating 30 different types of plants in a week have healthier guts. Now, people will say to me, "Oh my gosh, there's no way I can eat that many different fruits and vegetables." It's easier than you think, and I try to tell people, "Don't get caught up on a number. Just eat a lot of variety." But here's what makes it a little bit easier than what you think. For example, a Granny Smith apple counts as one, and a Honey Crisp apple counts as one, so just try to be varied in what you eat. Also fermented foods—we know that helps heal guts. And so these are things like sauerkraut, kombucha tea, sourdough bread. If you like kimchi, that's another. But these are definitely helpful for having a healthy gut.

Dr. Turck:

For those just tuning in, you're listening to *Clinician's Roundtable* on ReachMD. I'm Dr. Charles Turck, and I'm speaking with Registered Dietitian Ms. Jennifer Moore about dietary restrictions for patients with IgA nephropathy.

So, Ms. Moore, why is it important that patients work with a renal dietitian as part of their healthcare team?

Ms. Moore:

So doctors and nurses—this is not their area of expertise. Most doctors will tell me if they take nutrition in medical school, it's minimal—same with nurses. It's just that they have different roles, and dietitians have a very special role in working with these patients, and so they should be the ones providing this nutrition education.

And with most of the improvements I see with my patients, there's no medication change during the time we're working together. I'll give you an example. I had a college student with IgA nephropathy, and just in working with me for two months—this was no medication changes at all—his proteinuria dropped from 2.5 grams to 1 gram, and his creatinine dropped from 4.5 to 3 in two months. So we need to do better about helping these patients get connected to dietitians.

Dr. Turck:

What strategies do you suggest for patients who may feel overwhelmed by changes to their diet?

Ms. Moore:

That's why they should be working with a dietitian. That's another reason, because it can be overwhelming for some, particularly if they have a lot of changes to make. And dietitians can help people make small incremental goals. We can provide support and encouragement and accountability. I think patients definitely may be overwhelmed with nutrition changes, but I think they're more overwhelmed with the thought of going on to dialysis. That gives them a lot of fear, so I try to allay that and tell them there's a whole lot they can do. So I think when they change their diet, they almost feel empowered, like, "Okay, I'm doing something. I'm making this better. I'm part of my care team." And I love to work with people in that way.

Dr. Turck:

Now, reflecting back on our conversation, what's the single most important piece of dietary advice you would give to someone newly diagnosed with IgA nephropathy?

Ms. Moore:

I would tell them that "You're an individual—even though you have IgA nephropathy, your neighbor with IgA nephropathy is different than you. They're a different weight. They're a different height. They may have different cultural food desires," or whatever it may be, but that's why seeing a dietitian is important, because we can make the care specific to you. And then lastly, I would say—and I always tell my patients this—"You are a whole person." So a lot of times, people with kidney disease focus so heavily on the kidney disease that they forget other things, and rightly so. I mean, they're afraid. But the way that I work with people everything tends to get just a little bit better: blood pressure, diabetes control, inflammation, you name it. Whatever they have got going on, it usually tends to get better.

Dr. Turck:

Well, with that advice in mind, I want to thank my guest, Ms. Jennifer Moore, for joining me to discuss dietary challenges for patients with IgA nephropathy and how we can support them. Ms. Moore, it was great having you on the program.

Ms. Moore:

Thank you. It was great being here. I appreciate it.

Dr. Turck:

For ReachMD, I'm Dr. Charles Turck. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD.com, where you can Be Part of the Knowledge. Thanks for listening.