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Uncovering Unmet Needs in Chronic Kidney Disease & Type 2 Diabetes

Announcer:
You're listening to *Diabetes Discourse* on ReachMD, and this episode is sponsored by Bayer. Here's your host, Dr. Charles Turck.

Dr. Turck:
Welcome to *Diabetes Discourse* on ReachMD. I'm Dr. Charles Turck, and here with me today to help uncover the unmet needs of patients with chronic kidney disease and type 2 diabetes is Dr. Javier Morales. Dr. Morales is an Associate Clinical Professor of Medicine at the Donald and Barbara Zucker School of Medicine at Hofstra/Northwell on Long Island. He's also the Vice President and Principal Clinical Trial Investigator at Advanced Internal Medicine Group in East Hills, New York. Dr. Morales, thanks for being here today.

Dr. Morales:
Hey, thanks for the invitation. It's really a privilege to be speaking with you, Dr. Turck, and also participating in this ReachMD program.

Dr. Turck:
Thank you. And to start us off, Dr. Morales, would you share some key statistics on the prevalence of chronic kidney disease?

Dr. Morales:
Sure. So it's interesting that 32.6 million patients with diabetes actually exist within the United States, and 40 percent of these patients do suffer with chronic kidney disease. Now, the thing that's kind of alarming is that only 10 percent of these patients really are aware that they do have chronic kidney disease, and about 12 percent are diagnosed by their primary care professionals.

Dr. Turck:
And what are some of the most common comorbidities associated with chronic kidney disease?

Dr. Morales:
Well, as you know, the kidneys and the heart are some of the most metabolically demanding organs in the body. And if we're looking at chronic kidney disease, for instance, and we're looking at some of these comorbidities, they could include nephrosis with resultant edema, which increases the risk of congestive heart failure. And because the kidneys are interconnected with the heart, having a GFR of less than 40 basically conveys cardiometabolic risk or a cardiac risk factor. So coronary disease and coronary events actually increase. Now taking a look into this in a little bit more detail, in these patients that do have chronic kidney disease that ends up being quite progressive, your life expectancy could significantly be reduced by as much as 16 years.

Dr. Turck:
Taken together, how can chronic kidney disease and its associated comorbidities like type 2 diabetes impact a patient's quality of life?

Dr. Morales:
Well, we do know that having chronic kidney disease can impact the patient's quality of life in many different ways. So for the most part, the kidney is a metabolically active organ. And if you're having difficulties in getting rid of some of the toxins produced by the body and you have accumulation of acid, of course you're going to be feeling a little bit more dyspneic, a little bit more short of breath because you try to blow off those acids in the form of co2 at the level of the lung. But there's also edema that can sometimes happen as well as worsening hypertension, which could lead to diastolic dysfunction and heart failure. So our patients are more short of breath, they have lower extremity edema, and can actually suffer with significant orthopnea.

Dr. Turck:
For those just tuning in, you're listening to *Diabetes Discourse* on ReachMD. I'm Dr. Charles Turck, and I'm speaking with Dr. Javier Morales about how chronic kidney disease and type 2 diabetes can impact patients.

Now if we turn our attention to management, Dr. Morales, what are some barriers that can keep us from effectively treating patients with chronic kidney disease and type 2 diabetes?

Dr. Morales:
Well, the first barrier is actually recognizing that diabetic kidney disease is present. And the way we make that diagnosis of diabetic kidney disease is by measuring a urine albumin creatinine ratio, or UACR. If that value is greater than 300 and you have type 2 diabetes, you have diabetic kidney disease. But you could still have diabetic kidney disease if your urine albumin creatinine ratio is between 30 to 300 with evidence of diabetic retinopathy on ophthalmology evaluation or if you've had diabetes, type 1 diabetes in particular, for more than 10 years. So if you have a GFR of less than 60 in the presence of diabetes but in the absence of other causes of kidney damage or kidney disease, that also satisfies that diagnosis of diabetic kidney disease.

So some of the barriers that we have is making that diagnosis of diabetic kidney disease a little bit earlier and implementing the urine albumin to creatinine ratio in establishing that status. So important is urine albumin creatinine ratio that HEDIS has actually included it in some of its measures.

Dr. Turck:
What are some ways that we could work to overcome some of those barriers to effectively treat patients with chronic kidney disease and type 2 diabetes?

Dr. Morales:
Well, one of the nice things that has come about over the past couple of years is the consortium of experts across the globe called KDIGO, Kidney Disease Improving Global Outcomes. And they actually created what's called a heat map. So when we use this heat map, it actually winds up being very useful for the clinician as well as for the patient.

So let me describe the heat map very briefly. If you're looking at a graph, along the X axis would be your urine albumin to creatinine ratio. And if you're looking along the Y axis, now we're looking at glomerular filtration rate. And when we plot the GFR and the urine albumin creatinine ratio on this graph, we can actually see the likelihood of progressing towards end-stage kidney disease. So this winds up being beneficial because it creates a sense of urgency on the part of the clinician to institute therapies to preserve kidney function or to delay the progression of chronic kidney disease. But also on the part of a patient, they also see that urgency and are more compelled to remain adherent to any recommendations for therapies that you may make as a clinician.

Dr. Turck:
Now we're almost out of time for today, so before we close, Dr. Morales, what kind of impact might early intervention and treatment have on our patients with chronic kidney disease and type 2 diabetes?

Dr. Morales:
So the key thing here is to reduce the risk of progression of diabetic kidney disease because it is a progressive disorder. So just like managing our patients with heart disease and hypertension, we're using antihypertensive therapies that include RAS inhibition, antiplatelet therapies, lipid-lowering therapies, and sometimes even diuretics. But we have agents that actually show a decrease in the progression of chronic kidney disease. These also include RAS inhibitors, such as ACE inhibitors and angiotensin receptor blockers. The SGLT-2 inhibitors also have a demonstrable effect on the reduction of the progression of diabetic kidney disease. And once again, clarifying the interaction between the kidney and the heart, these SGLT-2 inhibitors not only have a renal benefit, but they also reduce the risk of major adverse cardiovascular events.

Now we have the new kid on the block, which is the nonsteroidal mineralocorticoid receptor antagonists. So these agents when used on top of standard of care for chronic kidney disease, such as maximally tolerated RAS inhibition, in some of the clinical studies that have been performed with a primary outcome of the study being a decrease in the progression of kidney failure, a decline in GFR of greater than or equal to 40 percent or renal death, this class of agent was able to successfully reduce that risk by 18 percent.

And since the kidney is inherently associated with the heart, there was secondary outcomes that were explored in these clinical trials. And these included 4-point MACE reduction. So that was cardiovascular death, non-fatal MI, non-fatal stroke, or hospitalization for heart failure. And this nonsteroidal mineralocorticoid receptor antagonist class actually did reduce MACE events by 14 percent.

So you see, now you have agents that not only offer benefit on the part of the heart, but they also more importantly have a benefit in terms of the kidney and delaying the progression of chronic kidney disease related to diabetes.

Dr. Turck:
Well with those final thoughts in mind, I want to thank my guest, Dr. Javier Morales, for joining me to discuss the clinical challenges associated with chronic kidney disease and type 2 diabetes. Dr. Morales, it was great having you on the program.

Dr. Morales:
Well, thanks. It was great to be here.

Announcer:
This episode of *Diabetes Discourse* was sponsored by Bayer. To access this and other episodes in this series, visit ReachMD.com/Diabetes Discourse where you can Be Part of the Knowledge. Thanks for listening!