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### Early Detection of CKD

#### Announcer:

Welcome to this episode of KDIGO Conversations in Nephrology. This episode titled, Early Detection of CKD, is provided by KDIGO and supported by an independent educational grant from AstraZeneca.

Here's your host, Dr. Peter Lin.

#### Dr. Lin:

Hello, and welcome to KDIGO Conversations in Nephrology. I'm Dr. Peter Lin, Director of Primary Care Initiatives at the Canadian Heart Research Center, and Family Physician in Toronto, Canada. And joining me to discuss the importance of early CKD detection is Dr. Sri Lekha Tummalapalli. Dr. Tummalapalli is a Nephrologist and Health Services Researcher at Weill Cornell Medicine, and her clinical and research interests include population health and health policy in CKD. Dr. Tummalapalli, welcome to the program.

#### Dr. Tummalapalli:

Thank you for having me.

#### Dr. Lin:

It's really good to have you here. And we've been having these discussions about kidneys, and we know that our kidneys rarely complain until they're very badly damaged, so therefore, we have to go looking for CKD. So who should we be thinking about when it comes to screening for CKD? What particular patient populations should we prioritize CKD screening.

#### Dr. Tummalapalli:

The first group I'll mention is patients with diabetes. So in many high income countries, diabetes accounts for half the cases of end-stage kidney disease. And early-stage CKD is really prevalent among this population. So patients with diabetes, about one-third of them have CKD. And so, there's several national and international guidelines that recommend CKD screening yearly in patients with diabetes. And it's important to remember that a lot of these patients, their GFR is normal, but they have elevated albuminuria until the very end. So you know, it's very important to do both the blood testing as well as the urine testing for protein and albumin.

Other populations that I'll mention, there's some consensus that patients with hypertension should be screened for CKD. And with CKD and hypertension, we have this bidirectional relationship. CHF, as well, causes cardiorenal syndrome, and patients with CHF have a high prevalence of CKD, as well as patients with atherosclerotic cardiovascular disease, they have a high prevalence of CKD, so should be considered for CKD screening.

So, KDIGO had a Controversies Conference in 2019, that, you know, we both had the opportunity to participate in on early detection in CKD. And the conclusion of that conference was that these three populations, diabetes, hypertension, and cardiovascular disease should be prioritized for CKD screening.

#### Dr. Lin:

Yeah, that's actually a very easy list to remember, because that's the bulk of our patients that we see on a day-to-day basis. And as you put it, that we have to measure both the blood as well as the urine, so the EGFR, the speed of the kidney. That's what I always tell my patients, that's the speed of your kidney, you know how fast it works. And then the albumin in the urine would tell us about, you know, the leak and the quality of the filter. So diabetes, hypertension, cardiovascular disease, that's a big chunk of our daily population that we see.

Are there any other risk factors or red flags that we should be looking for that might be tied to higher risk of CKD as well, in addition to diabetes, hypertension, and cardiovascular disease?

**Dr. Tummalapalli:**

Yeah, there are other risk factors. One is family history of kidney disease. So for every patient, you know, we should be asking them if they have family members on dialysis, and that might be due to diabetes in the family. But there's other genetic factors as well, you know, collagen mutations, kind of other genetic factors that are continually being discovered. So family history also really comes into play with polycystic kidney disease, which is autosomal dominant inheritance. Patients with lupus are also at risk for kidney disease. And there's other conditions that pose a risk for kidney disease as well. So if they have a history of severe AKI, if they were hospitalized, obesity, IV drug use hepatitis, and uncontrolled HIV are all risk factors, as well as any patients that are chronically taking medications that are nephrotoxic. So like lithium or NSAIDs. And luckily, you don't need to remember this full list. The International Society of Nephrology has a quick guide to CKD early identification So you can find that online and that lists out all these high-risk conditions.

**Dr. Lin:**

And that sounds really like a good list that we should keep. And, and I think you've mentioned, that something there that torqued my attention, which was NSAIDs. We have so many patients taking NSAIDs, and they might not be telling us. So that's something that we can ask for. And I must admit, I never thought about family history, how important that is, because that can give you a guide as to whether there's kidney disease within the family. So those are all very useful sort of practical tips.

For those just tuning in, you're listening to the KDIGO Podcast on early detection of CKD. I'm Dr. Peter Lin, and I'm speaking with Dr. Tummalapalli. Now CKD is found everywhere in the world. But what are the differences between countries? Are there any country-specific factors that might affect how we screen for CKD?

**Dr. Tummalapalli:**

Absolutely, I think in each country, the approach to CKD screening really needs to be tailored to that individual context. And a lot of especially low- and middle-income countries, they have limited access to CKD diagnostic testing. So some of the more expensive, you know, blood and urine tests.

Some things to keep in mind, there are certain areas that have high burden of what's called CKDu, so CKD of unknown origin. It's predominantly found in agricultural areas, sugar cane farming areas, where workers are at risk for dehydration. So this is increasingly found in many pockets of the world. So definitely if you're in that type of area, that's something to keep in mind. And then IgA nephropathy is another one, it has higher incidence in Japan, for instance, so they adopt a universal population wide screening policy. So definitely, you know, follow your country-specific guidelines. And each. country might have an assessment for what makes sense in that particular region.

**Dr. Lin:**

Yeah, those are good points. In other words, the testing may not be available. And more importantly, there may be different diseases that are more predominant. I never thought about the different types of diseases that may be causing CKD would vary across the world as well. So that's very important. And so that's why you know, the country-specific guidelines are so useful as well.

So all of that is very good. And this conversation has given me a lot of thought as to what I should be bringing back to my practice. Are there any other things that you want to give as a final message to our listeners, in terms of early detection and why we should be, you know, focusing in on that for a CKD patients?

**Dr. Tummalapalli:**

Yeah, I think, you know, early detection of CKD is more important today than ever before, because we have so many exciting therapeutics now. We have new medications to treat CKD and delay disease progression. So, you know, I know you'll talk about those further in a later podcast. But it's really an exciting time, and having all these chances to intervene early and modify the disease course, is really going to help so many patients across the world who are living with kidney disease.

**Dr. Lin:**

I guess that's very rewarding right now for you. Right? So whereas before we find people with CKD, and dialysis was the sort of the only option but now, there are lots of medications and things that we could do before that, right? That must be very rewarding for you to see that as well.

**Dr. Tummalapalli:**

Oh, absolutely. I think seeing – as a nephrologist, seeing patients in clinic before when they would ask you, what can I do about my kidney disease? Now we have so many options for them; lifestyle interventions, medications, you know, not just RAS inhibitors, but SGLT2s, mineralocorticoid receptor antagonists, GLP-1 receptor agonists. The field is very bright right now.

**Dr. Lin:**

That's great. That list is a very hopeful list. And that's a great way to round out our discussion today. So we know that our kidneys are

hard workers, they never complain. So therefore, we have to go check in on them. So that's why early screening might be a good idea. And you gave us a nice short list that we can handle. You know, our diabetes patients, hypertensive patients, cardiovascular disease, atherosclerotic cardiovascular disease patients are all people that we see regularly. So therefore, we should screen them. And you gave us some very good useful information about family history and the other types of kidney diseases that we could detect, systemic diseases like lupus. And these are all things that may be rare, but if we can find them, as you pointed out, there's so many things that we could do for those patients once we identify them. So let's make sure that we identify them early so that way we can intervene and change the course of our patients future. I want to thank you Dr. Tummalapalli, for joining me today and sharing your great insights and the importance of early detection of CKD. Thank you very much.

**Dr. Tummalapalli:**

Thank you for having me.

**Dr. Lin:**

I'm Dr. Peter Lin signing off. If you'd like to listen to this and other episodes in our series, visit [KDIGO.org/podcast](https://KDIGO.org/podcast). Thanks for listening.