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Episode 1 Part A: Signs and Symptoms of CKD and T2D

Announcer:
Welcome to CME on ReachMD. This episode is part of our MinuteCE curriculum.

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Dr. Weber:
There is currently a lack of awareness among primary care clinicians treating chronic kidney disease on the importance of managing associated cardiovascular risk factors. Chronic kidney disease patients who are considered high risk and do not receive appropriate specialized treatment represent a missed opportunity for the delivery of interventions to reduce chronic kidney disease progression. Remember, the end stage for most people with kidney disease will be cardiovascular events. Today we'll take a deep dive into the signs and symptoms of chronic kidney disease and type 2 diabetes.

This is CME on ReachMD, and I'm Dr. Michael Weber. I'm at the Downstate University of the Health Sciences in New York.

Dr. Rossing:
And hi, I'm Dr. Peter Rossing, Steno Diabetes Center in Copenhagen and University of Copenhagen.

Dr. Weber:
Let me start off by giving you a brief presentation of a case that I think could be pretty typical for what many primary care physicians see. It's a 64-year-old woman who has been obese throughout most of her life. BMIs in the low 30s, known hypertension for 20 years, and for the past few years she's done quite well controlling her blood pressure with a combination of valsartan and amlodipine. Most recent blood pressure 136 over 78, not perfect, but pretty good. Type 2 diabetes has been present now for about 9 years and currently it's being treated with Metformin, extended release 1500 mg daily, and her hemoglobin A1C varies between 6.4 and 7. She also has some lipid issues and she receives rosuvastatin 20 mg a day. Her LDL is down to 68. Her HDL is 47. Her triglycerides, a bit elevated, 178. Her renal function is steady. Her estimated GFR [glomerular filtration rate] is in the low 60s, so stage 2 chronic kidney disease, and it's been there for the past few years. We did an echo. It shows left ventricular hypertrophy and some left atrial enlargement. She has an ejection fraction of 64%, so we were doing all right until chronic kidney disease became more apparent about 12 months ago when she had an albumin creatinine ratio in the urine of 26 mg/g. Not dramatic, but the beginning of what we might call microalbuminuria. Three months later it had gone up to 195, and 3 months after that 378, at which point our colleague increased her valsartan dose from 80 all the way up to 320, I think a pretty reasonable move. And that helped because 3 months later the ratio was down to 122 mg/g. Unfortunately, 3 months after that, which brings us up to the present time, it had gone back up again to 335 mg/g and clearly somewhat troubling. Her serum creatinine has remained at around 1 g/dL, and her estimated GFR is down just a little bit. It's 58 at present, the most recent potassium, by the way 4.4. No history of cardiovascular or stroke symptoms or events, though she does mention some limited exercise tolerance. And so we are considering a stress test somewhere in the near future, and we'll also be measuring proBNP.

But, Peter, looking at this patient, to your mind, is this a pretty consistent way that chronic kidney disease, as it were, develops and presents itself?

Dr. Rossing:
Yeah, I think this is a very typical case, as you describe, obesity, diabetes, hypertension, and also some effects on the heart. And one of the challenges for motivating for engagement in treatment and change of lifestyle is that usually there are no symptoms related to this until at least quite late or advanced stages. So that means the incentive to really do something about it may not be that high. I think she has been followed and monitored as you see very often, glycemic control is fine, metformin and so on, and she's on antihypertensive medication, she's on RAS [renin-angiotensin system] blockade, which has been standard of care for chronic kidney disease for many years. So in that sense, I think this is actually a quite well treated and typical case at least until a few years ago. And you could say that typically, as you also stress, cardiovascular disease is the main problem and concern in this population with chronic kidney disease because kidney disease and cardiovascular disease go together, and the declining kidney function or increasing albuminuria is not just a risk factor or marker of future risk for kidney failure, but it's also a high indication for high risk for all-cause mortality and cardiovascular events.

So this increase in albuminuria and this smaller decrease in GFR is certainly an alarm, which should make us consider to do better because she is on the, you can say, progression towards higher risk for cardiovascular and kidney events, with albuminuria going up despite this ongoing treatment. And probably later, symptoms could be more severe, related to heart failure, and also, as you have pointed out, at high risk for stroke or myocardial infarction or other ischemic events, limb ischemia as well. So in that sense, at a later stage this might very well be added to her disease burden. And as you said, if we don't intervene now, that is a missed opportunity because we have recently achieved a lot of opportunities to change the course in a person like this.

Dr. Weber:
Thank you, Peter. Are we doing enough by doing a stress test and measuring pro-BNP? Anything else we should be thinking?

Dr. Rossing:
Well, I think these are important measures. You already also did the echocardiography. It is debated whether or not BNP is a good marker if you have kidney disease and obesity, but in the ADA [American Diabetes Association] guidelines, it's being recommended to screen with NT-proBNP if you have type 2 diabetes and to look out for heart failure. And it is a good indication for at least to rule out heart failure if it's normal, and if it's elevated, to supplement with an echo. But I think thinking about heart failure, thinking about ruling out ischemia is very relevant in this person, even if there are only very modest symptoms. And we should really be aware that with the slightest symptoms we should consider further evaluation and examinations because sometimes symptoms are very vague and yet underlying disease is certainly present.

Dr. Weber:
Thank you, Peter, and thanks to our audience for joining us for this discussion.

Announcer:
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