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Nephrology at the Helm—Advancing Timely CKD Care Through Cross-Specialty Collaboration

Announcer:
Welcome to CME on ReachMD. This activity, titled “Nephrology at the Helm—Advancing Timely CKD Care Through Cross-Specialty Collaboration” is provided by Clinical Care Options, LLC dba Decera Clinical Education, in partnership with the American Kidney Fund (AKF).

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Dr. Wish:
There is a lot to digest over the next hour or so because, as you can see here, the integrated pathophysiology of CKD, type 2 diabetes and cardiovascular disease can be very complex. I am not going to go through all the arrows and text in this slide, but just to point out the important end organ consequences of this syndrome, cardio-kidney-metabolic syndrome. You can see that there is a number of cardiovascular effects, ultimately leading potentially to atherosclerosis, myocardial dysfunction, and heart failure. There is a number of kidney effects, mostly, chronic kidney disease, which is often progressive, as well as proteinuria, which may be mild, moderate, or severe and is an independent risk factor not only for progression of the CKD but also for progression of cardiovascular disease.

Then there is, of course, the pancreatic dysfunction, insulin resistance that ultimately compounds the hyperglycemia and leads to significant end organ changes in a variety of organs, but most significantly, the vascular organs that can be anywhere in the body. We see an increased incidence of peripheral vascular disease, stroke, etc. Metabolic dysfunction is at the core here, and obviously anything we can do to improve these metabolic consequences, which include not only hyperglycemia, but also hyperlipidemia, obviously is going to have beneficial effects in patients in terms of soft outcomes, quality of life, and hard outcomes in terms of cardiovascular events, chronic kidney disease, hospitalizations, and mortality.

Cardiovascular-Kidney-Metabolic Syndrome: Risk Factors

You can see in another iteration the important intersection between these various forces that play a role in this cardiovascular kidney metabolic syndrome. At the center are the shared risk factors for chronic kidney disease, diabetes, and cardiovascular disease. Then you can see orbiting that center circle is a number of compounding effects, including lack of physical activity, unhealthy diet, obesity, family history, hypertension, and hyperglycemia.

Other than family history, all of those other circles around the center are modifiable. We have now tools for weight reduction, not only in terms of exercise and diet, but also in terms of GLP-1 receptor agonists. We can treat hypertension. We can treat hyperglycemia with a variety of tools, including oral hypoglycemics and insulin and GLP-1 agonists. Lack of physical activity, obviously, we can address in terms of prescribing a regular hypertensive program.

As you can see in the text on the right hand side of the slide, CKD, which of course is what we are addressing as nephrologists and nephrology providers, involves 40% of the patients with type 2 diabetes. We know that CKD increases the risk of cardiovascular disease, and most of the diabetes associated excess cardiovascular risk occurs in patients with CKD. Finally, the mortality rate is

significantly higher—this was 1 of the pretest questions—in patients with diabetes and chronic kidney disease 3-fold than with either disease alone.

Interdisciplinary Care Coordination Is Necessary

Interdisciplinary care, obviously, is an important aspect of the way we address these multiple risk factors that occur in what used to be separate silos. We basically allocated the cardiac care to the cardiologist, the metabolic care to the endocrinologist, and the nephrology care to the nephrologist. Now, what we are seeing, fortunately, is more of a blurring of these borders, because not only is it important for each of us providers, those 3 specialty areas that I mentioned, to have more of an impact because of the interconnections and the various arrows that you saw in that other slide, where 1 organ disease can affect another, but also because now, as nephrologists, we are using SGLT2 inhibitors, which used to be reserved for treatment of diabetes.

We are using GLP-1 antagonists, which usually used to be reserved for the treatment of diabetes, because we understand their impact on the progression of chronic kidney disease, reduction in proteinuria, etc. We also are having this dynamic discussion with cardiologists, as I am sure most of you who treat patients with simultaneous heart failure and chronic kidney disease know, the cardiologists like to keep the patients dry, and the nephrologist like to keep the patients wet.

So, we have to have this discussion in order to come upon that sweet spot where the patients have adequate diuresis to maintain better cardiac contractility, but not so much that they develop AKI or significant declines in their kidney function. These discussions have to be ongoing. Early identification, of course, can substantially reduce the CKD and the CKM syndrome. Therapeutic strategies have to target all of those risk factors that you saw in those slides and those arrows in between the target organs. Of course, lack of coordination between these providers can lead, as you can see, to delayed treatment, polypharmacy, conflicting care priorities, and ultimately, under treatment with avoidable progression of cardiac disease, kidney disease and diabetic complications.

Cynthia: Patient With CKD and Multiple Comorbidities Including HFpEF and Cardiometabolic Syndrome

Let us move to our patient and whoever is driving please start the video.

Cynthia Chauhan:
I made the decision to see all of my providers in 1 clinic because I thought and believe that would facilitate their working together in my best interest. I see all of my physicians there and they talk with each other. Also, if 1 of them is making a suggestion or recommendation to me, I say, "Have you talked with?" If the nephrologist is wanting me to lower my allopurinol, I ask him, "Have you talked with the rheumatologist? Because that is who prescribed it."

If the cardiologist is wanting to increase my diuretic, it is important that he talk with the nephrologist. They do that, but I also feel it is my responsibility to make sure they are doing it and to say, "Did you do this?" I talk to all of them and they talk to each other. I think from 1 of your physicians to be in charge of your care is probably important if you have multiple comorbidities. They all play really important roles. I have 1, my internist, who reads everybody's work and talks with me about how everybody is doing their job to keep me healthy. I think for me, the nephrologist is an extremely important part of my care.

I see the nephrologist every 4 months, and he works with the other physicians. I think the role of the nephrologist, if you have kidney problems, he is 1 of your main people. The kidney, we think of it as a simple organ, but it is not. It is a very complex organ, and it has a very complex relationship with the heart. I think the nephrologist is a really important person. You want to be sure he or she is someone with whom you can communicate, he or she is someone whom you trust, and who is willing to hear what you have to say about what is going on with your health.

Collaborative CKD Care: Nephrology in a Navigating Role

Kelly Chen:
Hope the video was helpful. Now we also have the Collaborative CKD Care: Nephrology in Navigating the Role.

We also have a poll coming up.

Poll 4

Of the following barriers to care coordination, which has the greatest impact on your practice?

A. Disparate health records;

B. Poor interspecialty communication;

C. Unclear specialist roles and responsibilities;

D. Lack of time for team discussion;

E. Lack of patient engagement; or

F. Poor patient health literacy and understanding of their disease state;

Thank you everyone for responding and stay engaged with us this morning.

Effective, Integrated Management Strategies

We now have Dr Chuck Vega for effective, integrated management strategies.

Dr. Vega:
I am impressed with that poll. I was just looking it over. I have all of those issues in my practice. I thought there would be more of a response, but that is great if you are already achieving more integration of care. I just want to congratulate Cynthia, she is such a champion. Really it is the patient at the end of the day who has the greatest ability. We know there are barriers, especially when you have folks with CKD, they tend to be older, They tend to have multiple chronic illnesses, seeing multiple providers. It is difficult. It is a full time job. Therefore, we want to try to support them as much as we can. That is really my section—how do you actually achieve this? I am going to come at this from the side of a family medicine perspective. We are really trying to take care of the shoulder pain, the headache, the hypertension, CKD, diabetes, and promote vaccination wellness all throughout.

That is going to be my task. Just remember that ,when the slides get complicated, you will have a copy of these slides available. So, some of them are really more just for reference. And 2, just make sure you put in your questions. If you have some pearls as we go, because a lot of what we talk about is interdisciplinary care, how to achieve that. If you have particular things that you found that work in your practice, try to put them in the question box and we will try to get to those at the end. Here is our goal for integrated management.

We really want to have each of us working to the best of our abilities. I really want to set up the nephrologist, the cardiologist, the endocrinologist to succeed. I want the mental health team and the pharmacy staff, everybody to be up to speed. The patients really at the middle here, that is the key.

Key Elements of Cross-Specialty Collaboration

I think the question then can become who is in charge? Who is actually doing the work? For me, it comes down to whoever sees the opportunity. If I have a patient that is a new diagnosis of CKD, I am going to get that guideline-based management, which Jay is going to cover in more detail very shortly. I am going to start initiating that management right then and there. I will certainly include in my note, include my clinical reasoning. I think that is very important.

Then certainly if they have an upcoming appointment, I will try to message that specialist, say, "By the way, this is why I am starting a RAS inhibitor, or this is why I am starting SGLT2 or a non-steroidal mineralocorticoid antagonist. It is because their urine albumin to creatinine ratio jumped." I think it is very important to also make sure all the tests are done. With CKD, the critical ones being eGFR and UACR that allow everybody to work to the top of their abilities. If you have a coordinator of care, especially for those tougher cases, that is great.

Features of Diagnosed CKD Care Models: VA and KPSC

Do I use coordination of care? Because we do have an LVN who helps us with really challenging cases, but I reserve those for really challenging cases. I also manage CKD through to end stage kidney disease in my practice. But I do want to refer over. I generally do not refer patients who are stable in that CKD 3 stage, but by the time they are reaching CKD 4, we know that from some studies that nephrology wants to see those patients. They do not want to see the patient in the hospital when the patient needs dialysis because of volume overload or severe electrolyte abnormalities.

That is not a great place which I understand to meet your patient. These are guidelines from the VA and from the Kaiser Permanente system that I think are pretty reasonable about when you want to refer. I am not going to read them, but I will call out. It is obviously stage 4 especially if they are declining with chronic illness and there is something that could be done where they might need renal replacement therapy, that is a good thing to do. Of course, they are already going to be on guideline-directed management because you initiated that before they see nephrology. Do not forget about folks - while about 60% to 80% of CKD in the United States is due to hypertension and diabetes, you still could have a host of other issues, polycystic kidneys, autoimmune disease, and other abnormalities, obstructive disease, that can promote kidney dysfunction.

If you see severe proteinuria, you know when the GFR is falling faster than it should with controlled hypertension and diabetes, that is when you refer as well. Really you have to use your own gestalt. Generally when I get those patients, I am suspecting 1 of those

illnesses, I will get an ultrasound, I will do extra lab work, before seeing the nephrologist so they can act on those results. That way, it just makes the care a lot more efficient for everybody.

Advocating for System-Level Strategies to Improve Interpersonal Workflow Strategies

It comes down, I think, I do not have a lot of time to call my specialist but boy that is so effective. I do like to use the messaging through the electronic health record. It is HIPAA compliant. It is very usually effective. I can get an answer back oftentimes same day if you have that. Unfortunately, in our practice and our safety net clinic, many of our specialists are outside of our system. That is why it is great that Cynthia has that integrated approach to her management, where everybody can talk to each other. A lot of us do not have that, but I do find that a phone call can go a long way. I usually provide my cell phone. Then do not forget about your other integrated health professionals like your nurse navigators, your mental health professionals, because we know that mood disorders are more common in CKD as well, and that can have an effect on adherence to treatment and overall outcomes.

Shared Decision-making in Collaborative Care

The goals for collaboration are on the left side of the slide. At the end of the day, we really want to empower patients so that means just being culturally sensitive and making sure that they try to understand, in their own terms, their disease state, why they are taking what they are taking in terms of medications, motivational interviewing, just brief little elements of it to try to elucidate patients' motivations for why they want to take care of their hypertension, diabetes, kidney disease, I think is really important as well.

That is going to help them stick in their mind better with not just the overall goals and I think a lot about functional goals. "I want to go on this fabulous trip. I want to see my great grandchild be born and thrive in school." Those are really important things that I actually keep on a separate tab in their file. That way I can come back to them like 6 months, 12 months later and say, "Hey, how is it going with your grandkids or great grandkid?" Patients love that. It just helps cement that provider–patient bond.

Patient Case: Helen-62-Yr-Old Woman With CKM Syndrome

I am going to give you a case here. This is 1 where I rub my hands together because when I see a patient like Helen and I see patients like Helen all the time, I am like, "We can do a lot of things for you," but we will come back to this in terms of what you would do. She does have some serious past history. A NSTEMI a year ago. She has had diabetes for 7 years. She has overweight and obesity and a family history of cardiovascular disease. She is at CKD stage 3A and her UACR, as you can see on the right, is very high - so that is A3.

She is at a more advanced stage of CKD. She also has longstanding hypertension. There is her med list. I will let you look at it for a second. Like I said, hey, let us go. As my kids like to say, "Let us go." We are going to do some good work for Helen and help keep her heart and her kidneys protected over more time. Her blood pressure 120/90. I would love to hear your thoughts on that. Her pulse is normally 85. BMI is 35 with an elevated waist circumference, and her labs are A1C is a little higher. eGFR is a little low in that three range. UACR is definitely high and her cholesterol or LDL is 105. What do you think of that? Triglycerides a little high too not unexpected.

Poll 5

With that, let us do another polling question. Kelly, you want to take this one?

Kelly Chen:
Yeah. Based on the workflow processes in your practice, how would your care be coordinated for this patient? Select all that apply. You have multiple options. We have

A. Shared care plans and protocols within an EMR;

B. Patient education visit to ensure that they understand all of their care and what they need;

C. Regularly scheduled call or a visit among HCPs;

D. Getting that care navigator in, the case manager, a referral for that;

E. A referral to a multi-specialty clinic; or

F. Other things that you are thinking of;

Select all that apply.

Dr. Vega:
I am not sure. It is interesting because I thrive on continuity. Certain patients have very hectic lives. They have other priorities. They

might have dementia, things like that. Where we need to really focus is on care coordination. Right off the bat, if I met Helen today, I would not necessarily start her, but a good charting is probably the first thing I would do. Patient education, which most people are saying. You guys have good practices. Everything is over 70% except the referral to a multi-specialty clinic, which is 57%. Pretty good.

Case Discussion

Jay, bring you in. You've heard Helen's case. What do you think from a nephrology perspective, about trying to coordinate care? What would you appreciate?

Dr. Wish:
What I appreciate is that 1 size does not fit all, and the best way to take care of the patient is the best way to take care of that particular patient and that particular health care delivery system. If you have somebody like Chuck who basically gets it and is able and eager to take care of as many aspects of this patient's care as they feel comfortable with, then that requires fewer referrals, because I think Chuck knows what he is doing and can probably manage the obesity and the hyperglycemia and hypertension himself. Given the fact that this patient has modest proteinuria, 305, that is not huge, and their CKD is3A, which is not terrible - we have no idea what the trajectory is - it is very possible that this patient could actually get along with Chuck without a nephrologist.

On the other hand, in other settings where the primary care physician is not quite as eager to take on the care of the chronic kidney disease, a referral to nephrology probably would be appropriate. Nephrologists can address the high albuminuria and the hypertension. Again, I think it really has to do with what that particular system offers, and those individual practitioners offer in terms of their willingness and competence, if you will, to take control of, not necessarily managing all aspects of the patient's care, but going to the helm. The presentation is entitled nephrologists at the helm. I was actually somewhat uncomfortable with that title because it sounds arrogant.

Nephrologists are going to step in and they are going to take control and they are going to tell all these other providers what they should be doing and how they should be doing it. No, that is not what we are trying to say. What we are trying to say is nephrologists, if we are engaged, which, in many cases we should be, we need to be working with the other members of the healthcare team as partners, and maybe stepping up if there is a void in some of that coordination, but not necessarily exerting control over the coordination. Coordination needs to occur, but again, that coordination can actually go to any member of the healthcare team.

Dr. Vega:
That is a great point. I think after our sessions today that hopefully you all feel like junior nephrologists, at least. I think Jay can grant you a deputy title, even if you did not get the formal training. What I hate is clinical inertia. I hate when patients come in like Helen, and I do not know how long she has been treated, but we are missing good opportunities here to take care of her and afford her better outcomes. I will just close by saying I am definitely eager. I come in with the pom-poms on pretty much. Go you, and we are going to empower you to take care of your health and I am going to help along the way by doing SGLT2 and maybe GLP-1.

Last year I learned a valuable lesson that you can be a little overeager because I actually had a patient complaint saying, "He really wanted to switch my medications and I do not know why. I am really happy with glipizide. I do not want to change. I want to go back to my usual PCP." Because I was covering for another provider who is out. I was like, "Oh, it was actually like, all right." Sometimes you do have to maintain that that perspective and that balance and read the room. Then when I thought about it, that patient really was not into my pitch as to, "We are going to improve your risk of end stage kidney, we are going to improve your risk of cardiovascular disease". Sometimes you have to go with that flow and then maybe develop more rapport over time. That was interesting to me. Again, we always have continuity of care that is so important for particularly primary care practices.

Dr. Wish:
Let me make 1 more brief comment. Multidisciplinary care, interdisciplinary care is the fact that there is a structure in place to facilitate that occurring. This is not necessarily something that we can do ourselves. We need to lobby the levels of the health care system to make sure that those vehicles for communication, those channels for communication, are open and easy to use.

Forging Ahead: The Latest Guidelines and Evidence for Patient-Centered Care

Great point. All right, we will move on.

Kelly Chen:
All right, so let us hear some more from Dr Wish. We have the latest guidelines and evidence for patient centered care.

Poll 6

I have a poll as well coming up that will kick off his conversation. How confident are you in your ability to apply the latest KDIGO

guidelines for management of patients with CKD in practice?

A. Not confident;

B. Somewhat not confident;

C. Somewhat confident;

D. Confident; and

E. Very confident;

Thank you for everyone submitting questions. We are seeing several questions come in through the Q&A. We will definitely get to those at the end for our faculty.

Dr Vega:
One of my fears is that on my tombstone, it will just say somewhat not confident.

Kelly Chen:
Do not you see, guys?

Dr Vega:
That is me. The conclusion of my life story, or maybe it could be my autobiography.

Kelly Chen:
All right, we got the answers in. Sorry, we have 20% somewhat not confident. Thank you all for joining today, and then hopefully we can get you a little bit more confident in your practice. Dr. Wish.

2024 KDIGO Screening Algorithm for CKD: eGFR and UACR

Dr. Wish:
Let us talk a little bit about the KDIGO screening algorithm for CKD, eGFR, and urinary albumin creatinine ratio. As you can see, they are relatively current 2024, and these I think most nephrologists would agree are excellent guidelines and they are an important tool in the management of these patients. Now remember, guidelines are not standards of care. They are decision making tools. Not everything here is set in stone. Not everything will apply to every patient, but the vast majority of patients will in fact fall into most of these pathways. Rather than going through the individual blocks because that is going to take too much time, I just want to focus your attention on the big blocks on the sides of the algorithm.

First of all, we use eGFR and urinary albumin creatinine ratio for risk stratification. I will show you the heat map on the next slide, which many of you may be familiar with. Now, cystatin C eGFR does improve accuracy if you are using a gold radionuclide standard such as iothalamate or iohexol, but almost all of the literature with regards to risk stratification comes from creatinine based eGFR. Most adult providers do not generally offer eGFR based on cystatin. I know the pediatricians like them because they are in fact more accurate for kids.

For patients with very, very low muscle mass, the cystatin system may be more accurate in terms of risk stratification, but it is probably not necessary for the vast majority of adult patients. You want to confirm the results with repeat testing. This is probably true whenever you see anything abnormal in your patient labs, you do not automatically do something about it. You want to make sure that it is actually true and it is enduring. So, eGFRs can go up and down, and we have patients that may get AKI. If they are a cardio-kidney-metabolic patient, they may have a transient decrease in their eGFR because of overdiuresis, which you can modify their diuretic dose and get their eGFR back to baseline.

It is very important to rule out AKI so that you do not channel a patient into a CKD stage based on a single serum creatinine and the calculated eGFR. What you see in the algorithm in the middle, if you focus on any of those things, is that it is very important in the middle column to rule out AKI and basically repeat within three months to make sure that the creatinine calculation is correct. You want to prioritize patient with multisystem disease, those with diabetes, hypertension, and or cardiovascular disease because they basically declared themselves as being high risk. Obviously, if you have to treat a lot of patients, you are going to get the biggest bang for your buck in the patients that are at greatest risk in terms of the results of your intervention.

Then finally, annual screening is a core to identifying and instituting prompt treatment for CKD, either in terms of abnormal eGFR or urinary albumin creatinine ratio. Both of those testing is now recommended for annual screening in patients at risk, meaning patients with known CKD, patients with known diabetes. Patients with known hypertension. Older adults perhaps should fall into that category as well because their eGFR is fall with aging and then there is other high risk groups that we do not need to enumerate. Again, annual

screening for patients at risk very, very important and core to early diagnosis and intervention.

Diagnosis/Risk Stratification Requires eGFR and UACR

Now this is the heat map that I refer to in the last slide. Again, many of you are familiar with it. You can see on the Y axis is the eGFR and the X axis is the albumin creatinine ratio, and the eGFR as you can see is the typical staging of CKD; G1, 2, 3A, 3B, 4, and 5. Then the albuminuria is either none less than 30, microalbuminuria 30 to 300 or macroalbuminuria greater than 300. Since albuminuria we know is an independent risk factor for CKD progression and for cardiovascular disease, the more you move to the right on this heat map, the redder the blocks become.

As you can see, a patient with G3A, which is the typical patient that we heard about a few minutes ago, moves from yellow to orange to red as their albuminuria increases. Our patient, in case 1 actually had, if you remember, more than 300mg of albuminuria even though she only had stage 3A CKD, which puts her at high risk and probably would merit referral to a nephrologist. Again, using both of these is extremely important in terms of risk stratification.

2024 KDIGO: optimizing Care as CKD Progresses

We can look at it another way in terms of this pyramid, and again we go from green which is low risk to red or orange on the top of the pyramid which is high risk. You can see who should be involved in each of these levels of the pyramid. At the green level, where kidney failure risk is 3% to 5%, primary care can usually manage most of the kidney related issues. As you get to the yellow, which puts kidney failure risk in the 3% to 5% range in 5 years, the nephrologist and multidisciplinary teams should be involved. As we get to that orange and red at the peak of the pyramid, then very clearly the nephrologist has to be involved, because that is the point at stages 4 and 5 where the patient needs to hear about renal replacement therapy options, a hemodialysis, home dialysis, transplantation, and then the appropriate referrals need to be made.

CKD Treatment and Risk Reductions: A Holistic Approach

This is another way to look at it in terms of an algorithm-based strategy for CKD management. Again, I am not going to go through all of these individual columns. Again, lifestyle is extremely important. You can see the things on the top, healthy diet physical activity, smoking cessation, weight reduction. First line therapies again being SGLT2s, renal RAS inhibitors and statins. And then the targeted therapies for hyperglycemia, the nonsteroidal MRA, dihydropyridine calcium channel blockers, as a choice for antihypertensive therapy after you have done the RAS inhibitors, and then antiplatelet therapy. Risk factor assessment and then validated tools for assessing CV risk, CKD patch or score tool and American Heart Association PREVENT equation.

Estimated Lifetime Benefits of Combination Treatment: Patients With T2D and Albuminuria

This, I think, is an extremely impactful slide because it shows the risk reduction that occurs with cumulative therapies. If you are looking at CKD progression on this forest plot, you can see that the risk reduction clearly favors more combination therapy as you move from monotherapy to dual therapy to triple therapy. The same thing is true with all-cause mortality, MACE hospitalization for heart failure, and cardiovascular death. This goes back to that original polling question. What do you do next? You do 1 thing at a time, or do you do more than 1 therapies? Two or three therapies? The answer is clearly the 2 or three therapies is going to have a greater impact than 1 therapy.

Now, you may have a practice style where you only add 1 thing at a time, because if the patient gets side effects, it is better or it is easier to figure out which drug the side effect is from than if you have given patient three new drugs at a time. That does not mean you cannot add drugs in short succession after you determine the tolerance of a patient to a single intervention.

Pillars of Treating Patients With CKD

What we have, again, is a way to visualize or look at what we are doing is a 4 pillar approach. And you see the pillars here SGLT2 inhibitors, RAS inhibitors, GLP-1 receptor agonists, and non-steroidal MRAs, as you go from patients with diabetic kidney disease trying to decrease the progression and ultimately offer a cardio and cardiovascular protection. Because you are not only decreasing heart events such as MIs and heart failure, but you are decreasing events that may relate to stroke or peripheral vascular disease, etc. Again, many of these patients may require three, 4 interventions in order to get the optimal benefit. Again, this has become the standard of care.

Key Considerations for Treatment Monitoring, Discontinuation, and Reinitiation

The key considerations for treatment monitoring, discontinuing, and reinitiation. This is just common sense. Regular review of adherence. Evaluating drug-drug interactions. Eliminating over-the-counter medication use. Monitoring eGFR, especially the change in the slope in eGFR that hopefully occurs after you initiate 2, three of these therapies and you saw how much the additive effect is of

multiple therapies here. Avoiding combined use of multiple RAS inhibitors. Obviously, you want to only use an ACE or an ARB and not a direct renin inhibitor at the same time, because this increases the risk of hypotension and particularly hyperkalemia and AKI.

Then the guidance for discontinuation and reinitiation for sick day rules, effective surgery, a lot of elective surgery and adverse events. What often ends up happening is patients get admitted to the hospital for something that may be related or unrelated, they get taken off some of these medications, they are not reinitiated prior to discharge, and then when the patient comes back to 1 of their providers, they have been off these medications for 2 or three months and they have missed the benefit of those medications for that duration of time.

Patient Case Revisited: Helen-62-Yr-Old Woman With CKM Syndrome

Let us revisit our patient. This is Helen again, 62 year old woman with cardio-kidney-metabolic syndrome. You see her current therapy, vitals and labs. We have gone through these before, and I think we have another polling question.

Poll 7

I will turn it back over to Kelly.

Kelly Chen:
Think of Helen. What would you recommend to optimize this patient's medication regimen? Please select all that apply.

A. No recommendations. This regimen is perfect. It is optimized;

B. Add an SGLT2 with demonstrated CV or CKD benefits;

C. Add a GLP-1 with demonstrated benefits for cardiovascular and chronic kidney disease;

D. Add a basal insulin;

E. Add a dihydropyridine CCB; or

F. Add a nonsteroidal mineralocorticoid antagonist;

G. Add a steroidal mineral receptor antagonist; or

H. Add ezetimibe;

We want to hear what you would do for Helen's medication regimen.

Dr. Vega:
I hope that I biased everybody so that nobody answers A, is all I can say, for Helen's case.

Kelly Chen:
Yeah, hopefully I suggested not to as well.

Dr. Vega:
There is always going to be somebody. There is always somebody who is going to say, "No. Everything is cool."

Kelly Chen:
Thank you for submitting your answers and staying engaged everyone.

Case Discussion

If this were your patient, what would you do to ensure? Dr Wish, Dr Vega, what were your thoughts on this case?

Dr. Vega:
Even though I try to have continuity of patients, I work in a safety net clinic. Sometimes I assume I may not see the patient again for a while. They may miss. There is a lot of factors that go into it. I may try to do multiple things here. I am targeting that glipizide. It is obesogenic. It promotes hyperglycemia. It does not have cardiovascular or renal benefit independently of its effects on lowering glucose. So, I am going to take that 1 out. I am going to really try to promote a GLP-1 receptor agonist or GLP-1 GIP. Either 1 of those would be great. I would also really push for SGLT2.

I think you could do both at the same time. They have different side effect profiles. I am not too worried about that, but it does take some discussion. I think her blood pressure needs better control. She needs to have better control of her lipids as well. If I have time, I will address those as well. It is really how far can I go here with this patient and how much can she absorb? If she is giving me signals like, "No, that sounds like too much change and I do not want to make these changes. I am not sure I can handle it." Then maybe we will pull

back and try to do 1 thing, but I would start with those first 2 and then I think I could do all those things, though at least 4 of those things in 1 visit. That would be my goal for Helen.

Dr. Wish:
I agree with you, Chuck. Obviously, the more we can do, the better. She has lots of things to do on her checklist in terms of lipids, hypertension, glycemic control, weight reduction, etc. She basically has every single check mark in terms of intervention possibilities. I want to make 1 comment in terms of the ease of prescribing some of these newer, expensive drugs, and that is often a barrier. These are expensive drugs. They often have significant copays, even for patients with some insurance and that can often be a barrier. It did say use a GLP-1A that has demonstrated cardiovascular benefits or SGLT2 with demonstrated cardiovascular benefits, but you prescribe the dapagliflozin or empagliflozin, and it is a $500 monthly co-pay.

What you do is a little exploration, or my nurse does it to find out what GLP-1 or SGLT2 their insurance will actually pay for with a very low co-pay. It may actually not be 1 of those that has the "seal of approval" in terms of cardiovascular benefit. I feel that a GLP-1 or SGLT2 is better than none. I will often explore the less expensive ones that may not have the track record of cardiovascular benefits. I do not know if you do the same thing, Chuck.

Dr. Vega:
Yes, absolutely. Unfortunately, insurance is going to dictate which of those classes, but you want to get those classes on board.

Kelly Chen:
It sounds like there is a lot for us to do. Do not let those patients go. Let us get to the post-test questions, everyone.

Key Takeaways

Let us go through some key takeaways. We have CKD, type 2 diabetes that were shared. Interconnected pathophysiologic pathways that Dr Vega talked about. These are the strategies for early detection and there is also this multidisciplinary approach that Dr Vega talked about. Anything else we should add?

Dr. Wish:
Now, again, structural change is the thing that is going to make this communication and interdisciplinary care the easiest to implement. Again, if you are having trouble in terms of the siloed traditional approach to these patients, you need to go to your health system and say, we need a functioning system that allows for communication. Ideally, what you get is the Cynthia type clinic, where all these providers are in the same place at the same time. That is going to foster the communication.

Posttest Question 1

Kelly Chen:
Posttest question number 1, which statement best describes the relative risk of mortality for those who have type 2 diabetes and CKD vs patients who have a low? Everyone was right. It is three times greater - 80%. Is that right, guys?

Dr. Vega:
Good job.

Dr. Wish:
That is right.

Kelly Chen:
Definitely a change between pretest and posttest.

Posttest Question 2

Post test question 2, how confident are you now, after all of our discussion and what we have learned this morning, in your ability to direct interdisciplinary care for patients who have CKD to support their comprehensive cardio-kidney-metabolic health?

A. Not confident;

B. Somewhat not confident;

C. Somewhat confident;

D. Confident; or

E. Very confident;

Amazing. Everyone is moving into the confident category. We have 38% confident. Really moved up from the 15% in the beginning.

Posttest Question 3

Posttest question three. This is the case with the 63 year old on glycemic control, on blood pressure control, dual antiplatelet therapy, that A1C of 8.9, but high blood pressure and cholesterol control. What should we do for him?

We have C. GLP-1 receptor agonist, SGLT2 2 and non-steroidal mineralocorticoid receptor antagonists. I think most folks chose C this time. I think. Less folks were choosing C. Go ahead.

Dr. Vega:
No, that is great. Again, maybe you cannot do all these in 1 visit. Cost may be an issue. Patient values may be an issue. Really, if you can do it, I tend to think of it like piloting the Millennium Falcon and going to hyperspace. You just push everything forward and zoom. You can really advance patients care. Avoid that clinical inertia. Leave that behind you in a galaxy far, far away.

Dr. Wish:
This will be another example where the cost of finerenone might be prohibitive, and rather have them on a steroidal MRA than not on any MRA at all. I put them on Aldactone or finerenone and MRA inhibitor [?].

Kelly Chen:
Very true. There is no option for A. Just a steroidal MRA on this list.

Poll 8

Do you plan to make any changes in your practice based on today's learning that you have learned?

A. Yes;

B. No;

C. Uncertain;

No results will be here. This is just an idea where you guys are at.

Poll 9

Then please take a moment to enter a key change you plan to make in your clinical practice based on this education. Then we will move on to our Q&A with the remaining time we have left. As folks are answering poll 9 with this last question, I am going to start going through some of the questions for our faculty today.

Questions and Answers

Do you recommend SGLT2 inhibitors on patients with CKD but are not spilling any protein? This is an otherwise healthy, active 61 year old female with about a 30 year or so long term history of hypertension, mixed connective disease, Hashimoto's. I would love to hear how Dr Vega would approach it, and then we will hear from nephrology, Dr Wish.

Dr. Vega:
This is a patient who is probably going to be in primary care, not nephrology and the way to keep them out of nephrologist's office, to start a drug like an SGLT2 inhibitor. I think that, while patients with macroalbuminuria or proteinuria definitely benefit, you do not need those things. Stage 3 CKD with hypertension and maybe the connective tissue disease is contributing as well. SGLT2 should help slow down the progression of CKD and prevent things like heart failure.

Dr. Wish:
I agree. Initially, SGLT2 inhibitors were for diabetics with proteinuria, and then they were for anybody with proteinuria, and then they became for anybody with CKD. The answer is yes. There are a lot of good studies that show that they slow progression of CKD and the absence of proteinuria in diabetes. I think it should be in the water supply.

Kelly Chen:
The new statins. I think a little bit extrapolating that more, we had a learner who was asking about the significance of microalbuminuria and how that is treated other than using a size and ARBs. You want to make a quick comment on that?

Dr. Vega:
I would like to go. There was a study that showed that only 20% of folks, based on an observational study using medical records, who qualify for getting a UACR were getting a UACR. So we definitely need to do a better job. This is mostly on primary care. We have got to

screen appropriately, so the eGFR and UACR, to screen for CKD. Let us make sure we are getting it, and then you are going to take those steps we talked about. ACE or ARB is a great first step, but then SGLT2, nonsteroidal mineralocorticoid antagonist. Those are really your 3 pillars, and then if they have diabetes, you can think about using a GLP-1 as well.

Dr. Wish: You might have problems with nonsteroidal mineralocorticoid antagonists in non-diabetics because there is no [?]. But for diabetics, absolutely correct. The question is how low do you need to push these drugs in terms of a target microalbuminuria level? There is really no consensus on that. We know that lower is better, but if you start at 200, you get it down to 75. Is that good enough? The answer is yes, probably is. I do not think there is any data that suggests that there is a 30 that is an absolute inflection point in terms of risk. The lower the better. We usually push them to tolerance, but again I do not think there is any clear consensus target.

Kelly Chen:
Discussing that a little bit more about ACEs and ARBs, we have a question about how do we ascertain an ACE or ARB is exacerbating kidney disease. So, perhaps this learner is asking about AIs. How do we know when to reinitiate those ACEs and ARBs? Is it all based on clinical judgment or is it a nephrology based guideline? How do you guys practice?

Dr. Wish:
Let me take a stab at that because this is a very good question. How much of a rise in creatinine or change in eGFR are we willing to tolerate when we initiate an ACE inhibitor or ARB? By the way, I prefer ARBs because 25% of patients on ACE inhibitors will get a cough, and then you have to switch anyway. I put everybody on ARBs to begin with. Anyway, the answer is this is the mechanism of action of ACEs and ARBs is that the intraglomerular pressure by dilating the efferent arteriole. You will anticipate that there should or will likely be a decline in GFR, so the question is how much of that decline are you willing to tolerate?

The answer is there is really no consensus. In my practice, if their serum creatinine goes up even less than a point, I am probably going to tough it out. Especially if it has other beneficial effects, so their blood pressure is better controlled, their albuminuria goes down significantly, but their serum creatinine goes from 1 and a half to 2. I would probably cut that out. I would not DC the ARB and I would just continue to follow them.

Dr. Vega:
What I remember is it is expected to have a 20% decline in eGFR when initiating an ACE or an ARB. Do not do not worry about it. I checked sometimes for potassium but I tend to ignore that repeat eGFR after I have initiated that therapy because in the long term you are going to get the benefit. That is that is the key. You are playing the long game.

Dr. Wish:
You are trading a short term decline for long term stabilization.

Kelly Chen:
Sounds like we have to hold strong. A little bit about that, we had a question earlier about SGLT2. Let me see if I can spot that. Here. Going along with the same thoughts and themes. If the eGFR drops to below 20, when you start SGLT, do I stop or how do you go about doing that?

Dr. Wish:
The answer is no, you do not stop. There has actually been data on this that suggests that the SGLT2 can, in fact, should be continued with the GFR goes less than 20. You can actually continue them even until they are on dialysis. You say, "My God, why would we help a patient who is already on dialysis, if the mechanism of action of the SGLT2 is to increase glucose, urinary excretion, and these patients are no longer making a lot of urine?" The answer is that the studies that show that when SGLT2s are continued way into stage 5 and even into dialysis, that there is still a cardiovascular benefit. The answer is we do not stop them. We do not start them when they are less than SGLT2, but we do not stop them when their GFR goes down.

Dr. Vega:
I think the other point is - is that is great, I totally agree, Jay - when there is preexisting heart failure, then you continue them throughout as well. That is that is a very compelling indication as well. Do not forget that one.

Kelly Chen:
All right. Thank you, everyone for your questions. I think that is all we have time for today. The faculty, any last thoughts for our audience today?

Dr. Vega:
I was thinking about Jay, what you were saying earlier about following patients and being concerned about their the eGFR effects. How low do you push their urine albumin? For a lot of my patients now, I have been in practice in the same place for nearly 30 years now. I

have a lot of 80 year olds, and they have had stage 3 CKD for the last 20 years. I am telling them, "At this point, your kidneys are not going to be a problem. You are 86, 88 years of age."

It is nice to hear that, like just dialysis for you. I just do not see it in the cards. It is thanks to these treatments is because we followed them closely over time. They had a good continuity of care. I have got a great team around me and it is really been satisfying to see them live longer and healthier lives. We have such great tools at our disposal now. Really try to maximize the tools that you do have around you, look around and hopefully if this day inspires you to achieve that.

Dr. Wish:
I agree with you completely, Chuck. As you point out, the best predictor of future, behavior of the kidneys is the past behavior. If you have a relatively flat eGFR trajectory, chances are, unless there is some acute unexpected insult to the kidney, it is going to stay that way.

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