

Transcript Details

This is a transcript of an educational program. Details about the program and additional media formats for the program are accessible by visiting: <https://reachmd.com/programs/clinicians-roundtable/improving-ckd-patient-outcomes-with-sgl2-inhibitors/17943/>

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Improving CKD Patient Outcomes with SGLT2 Inhibitors

Announcer Intro:

You're listening to *Clinician's Roundtable* on ReachMD. Today, we'll be discussing a treatment normally used for patients with type 2 diabetes, called empagliflozin, for the treatment of adult patients with chronic kidney disease, or CKD for short, with Dr. Gates Colbert. Dr. Colbert is Assistant Clinical Professor of Medicine at Texas A&M College of Medicine, and a nephrologist and Certified Hypertension Specialist at Kidney and Hypertension Associates of Dallas.

Dr. Colbert:

For a long time, really since the early 2000s, we've had a backbone of therapy for our patients with chronic kidney disease that has been the ACE and ARB class of medications, and the ACEs and ARBs really showed that putting a patient who had chronic kidney disease with or without diabetes, these medications had a major impact on preserving GFR, decreasing your overall mortality, as well as cardiovascular risk. But we are now in the 2020s, and up until the last couple of years, we really haven't had any improvements over the last 20 years.

Now we have a new confirmed class called the SGLT2 inhibitors that are a class of medications that have been shown to be a fantastic add-on therapy to our ACE and ARB class of medications that make a major difference for patients with chronic kidney disease with and without diabetes. And we've had several medications that have been well studied and approved by the FDA in the United States that when we add a medicine that's initially to inhibitor to our standard of care, we show that the progression of chronic kidney disease, cardiovascular events, and in many cases, overall mortality and cardiovascular mortality can be greatly improved upon once these patients are on this medication class. So really, nephrologists, cardiologists, and primary care physicians, and other providers really have a new class of tools to help our CKD patients prevent from going on to a cardiovascular event CKD progression and dialysis and kidney transplant. And so we really have an exciting time where we can really make an impactful difference for these patients.

Empagliflozin is one of the SGLT2 inhibitor medications in the class, and this was a medication that has been approved for several years for helping with hyperglycemia. The classic series of trials was EMPA-REG with different outcome trials showing that when this was used to treat patients with hyperglycemia or diabetes, we really showed a reduction in glucose levels and hemoglobin A1C. This medication also showed in secondary endpoints improvement in cardiovascular events and CKD events, so there were further studies that were more targeted at looking at kidney outcomes and cardiovascular outcomes. And in terms of looking at kidney outcomes, we really saw some excitement because there was a study called EMPA-KIDNEY and this was a large randomized controlled trial that had both patients with diabetes and without diabetes but had to have confirmed chronic kidney disease that included patients with a GFR down to 20. And it showed that when empagliflozin was added on to our standard of care, we saw really statistically significant improvements in GFR for preservation creatinine not rising as much over time, cardiovascular events, and hospitalizations. And so this was a confirmatory trial of what we had hoped and what we'd expected with seeing other SGLT2 inhibitors added on to the standard of care. Empagliflozin was able to replicate that. We did not see any major increase in side effects that were different from other medications in class.

Then empagliflozin was looked at cardiovascular outcomes specifically and looking at patients with heart failure. And so there are two major trials, the EMPORER-Reduced trial and the EMPEROR-Preserved trial, and these two heart failure trials showed that when empagliflozin was added on to the standard of care, we again saw improvements in cardiovascular outcomes, as well as hospitalization for heart failure. And so this was really exciting to see in these difficult-to-treat and sick overall patients with heart failure that we could really have improvements in both our cardiovascular function, as well as kidney function.

We showed in the EMPA-Kidney trial, which was a trial of 6,609 patients to standard of care, and they either received empagliflozin 10

milligrams of placebo on top of their standard of care, and with the median follow-up of around two years, we saw that progression of kidney disease, disease or death from cardiovascular causes occurred in 13.1 percent of patients who had received empagliflozin, but it occurred in 16.9 percent in the placebo arm, which with a good confidence interval and a great P value of 0.001. And this was consistent in patients with and without diabetes.

We're preventing outcomes from occurring in the years ahead. And so this medication isn't going to show a quick impact within a month or two. These are preventative medications, and our goal is to prevent major events over the long term. So I think that we're going to start seeing some real-world data with empagliflozin, decreased cardiovascular events, decreased number of patients who are needing to go on dialysis when they received empagliflozin, potentially decreased number of kidney and heart transplants as well. So I think that real-world data is going to really be exciting and confirmatory in the future.

As well, we're starting to see who our patient population that we haven't studied could benefit from empagliflozin. A big group right now is patients with nonalcoholic fatty liver disease, and this is being studied actively right now with using empagliflozin versus placebo.

Additionally, patients with type 1 diabetes have been excluded from all of the clinical trials using empagliflozin, so there's a potential that this could help that group as well if they're monitored closely because they may have a higher risk of moving on to ketoacidosis.

And then as we know that the SGLT2 inhibitor class with drugs like empagliflozin does potentially help with downstream fibrosis and cytokine, really other end organs may show benefit in the long term, such as brain, lung muscle, really all these different groups are being looked at and wanting to really discover, are there improvements that we can see when we add empagliflozin to the overall standard of care?

Announcer Close:

That was Dr. Gates B. Colbert discussing empagliflozin for CKD adult patients. To access this and other episodes in our series, visit *Clinician's Roundtable* on ReachMD dot com, where you can Be Part of the Knowledge. Thanks for listening!