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<https://reachmd.com/programs/cme/the-hyperphosphatemia-dilemma-in-ckd/29520/>

Released: 01/10/2025

Valid until: 01/10/2026

Time needed to complete: 54m

ReachMD

www.reachmd.com

info@reachmd.com

(866) 423-7849

The Hyperphosphatemia Dilemma in CKD

Announcer:

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

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Episode 1

Dr. Fishbane:

This is CME on ReachMD, and I'm Dr. Steven Fishbane from Northwell Health in New York. Today I'm reviewing key markers of uncontrolled hyperphosphatemia in patients with CKD on dialysis.

It's important, when we talk about phosphorus, to recognize this has been a long-standing problem that's been looked at in scientific circles and looked at in terms of clinical practice guidelines, to try to understand what are the best ways for us to try to help our patients and to be able to deal with some of the issues that go along with chronically having elevated serum phosphorus concentrations. And I think one of the important breakthroughs was putting together scientific information. And there's very good scientific information that helps us understand what are the problems that go along with having a phosphorus concentration that is elevated. And the accumulation of information and having expert panels looking at that led to targets that gave us an idea of what are we trying to accomplish in terms of caring for patients on dialysis with hyperphosphatemia.

And I'd like to point out the initial Bone and Mineral Guidelines of KDOQI gave us a target range. And the target range was 3.5 to 5.5. And that was the target range that was very worthy and certainly consistent with the literature. It wasn't consistent with high-quality randomized controlled trials, but was very much the accumulated knowledge and understanding of what existed in the scientific literature. And headed the experts in mineral and bone disease that looked at the accumulated literature, put it together to give us a clinical guideline that's helpful in terms of managing patients.

Now, KDIGO, the Kidney Disease Improving Global Outcomes, program came out with a later set of guidelines, and they're even perhaps a little bit more aggressive in terms of managing serum phosphorus with a target of trying to lower phosphorus towards the target range, shooting for the normal range of 2.5 to 4.5.

I'd like to point out here that when you do studies and you look at how successful are we in terms of keeping dialysis patients within the target ranges, we find that a very large number of patients in any given month, when you look at clinical data, you'll find that patients are not in the target range, and that's almost always because patients are above the upper level for serum phosphorus. And if you look over time, over the course of, say, 6 months, and try to understand, can you keep people in range over the course of time, it's a fairly low percentage of patients where we achieve the goals. And we achieve the goals over the course of time.

And that causes some frustration, but the things that we do to lower phosphorus, whether it's dialysis treatment, whether it's the use of diet or the use of phosphate binders or phosphate absorption inhibitors, it's all towards the very good goal of trying to keep patients in or close to the targeted range that we shoot for.

And there's a reason for that, and that's that the scientific literature shows us that patients that have elevated phosphorus concentrations on dialysis have an increased risk of cardiovascular events, cardiovascular mortality, and an increased risk of all-cause mortality that is associated with an elevated concentration of serum phosphorus.

And I think that when you look at the strong associations that we see, the fact that it is biologically highly plausible that this is related to the cardiovascular disease the patients have, it still gives us a really important impetus as clinicians to be continuing to try to reduce the patient's risk through the management of hyperphosphatemia.

Now, we can go beyond cardiovascular disease, because certainly in terms of mineral and bone disease, hyperphosphatemia is important. Hyperparathyroidism, there is a number of reasons that hyperphosphatemia is potentially problematic for patients. And although we focus on the associations with increased risk of death because of the great excess of death in this population, certainly these other causes are important as well.

So I'd like us to leave today with a reminder that what is important for us as clinicians, we're trying to get to target ranges and we're trying to achieve consistency in terms of getting to those ranges. And to the degree that we are successful, we are achieving something that takes us out of the ranges where we've seen exposed risk, especially of increased cardiovascular disease, and into a range where we may be improving the health and safety of our patients.

I'd like to thank you so much for being part of today's program. Thank you for tuning in, and I hope this information will be useful to you in your practice.