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VITAMIN D SUPPLEMENTS MAY BENEFIT CHILDREN WITH KIDNEY DISEASE

Study links low levels of vitamin D with greater loss of kidney function over time

Highlights

- Among children with chronic kidney disease, those with lower vitamin D levels had higher levels of blood markers related to kidney dysfunction as well as greater kidney function loss over time.
- Five-year kidney survival was 75% in patients with vitamin D levels ≥ 50 nMol/L at the start of the study and 50% in those with lower levels.

There is a high prevalence of vitamin D deficiency in children with chronic kidney disease.

Washington, DC (June 11, 2015) — Maintaining normal vitamin D levels helps preserve kidney function in children with chronic kidney disease (CKD), according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN). The findings indicate that vitamin D—which is an easily accessible, safe, and inexpensive nutritional supplement—may be a useful addition to treatments for safeguarding kidney health in children with mild to moderate CKD.

Blocking the renin-angiotensin-aldosterone system (RAAS), which is a complex hormone system that regulates blood pressure and fluid balance, is a cornerstone of therapy in CKD. Unfortunately, patients may experience a limited response to drugs such as angiotensin-converting enzyme inhibitors (ACEIs) that target the RAAS over time, and intensifying treatment with these drugs can lead to side effects. Patients may experience benefits from adding other therapies that can augment RAAS blockade, and clinical trials in adults with CKD have shown that vitamin D may have such an effect.

To determine whether vitamin D levels influence CKD progression in children, Rukshana Shroff, MD, PhD (Great Ormond Street Hospital for Children, London, UK) and her colleagues analyzed long-term data on 167 children from a clinical study called the Effect of Strict Blood Pressure Control and ACE Inhibition on Progression of CKD in Pediatric Patients (ESCAPE) trial.

Children with lower vitamin D levels had higher levels of blood markers related to kidney dysfunction as well as greater kidney function loss over time. Five-year kidney survival was 75% in patients with vitamin D levels ≥ 50 nMol/L at the start of the study and 50% in those with lower levels.

“Nutritional vitamin D supplements like cholecalciferol have a wide therapeutic window. Thus, clinical trials with cholecalciferol, a safe and effective vitamin D supplement with minimal need for monitoring, are recommended in children with CKD,” said Dr. Shroff.

Study co-authors include Helen Aitkenhead, MD, Nikola Costa, MD, Antonella Trivelli, Mieczyslaw Litwin, MD, Stefano Picca, MD, Ali Anarat, MD, Peter Sallay, MD, Fatih Ozaltin, MD, Aleksandra Zurowska, MD, Augustina Jankauskiene, MD, Giovanni Montini, MD, Marina Charbit, MD, Franz Schaefer, MD, and Elke Wühl, MD, for the ESCAPE Trial Group.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Normal 25-Hydroxyvitamin D Levels Are Associated with Less Proteinuria and Attenuate Renal Failure Progression in Children with Chronic Kidney Disease,” will appear online at <http://jasn.asnjournals.org/> on June 11, 2015.

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