Journal View

Patiromer Reduces Potassium in CKD Patients Taking RAAS Inhibitors

The new oral potassium binder patiromer effectively lowers serum potassium levels in patients with chronic kidney disease (CKD) who are being treated with renin-angiotensin-aldosterone system (RAAS) inhibitors, reports a trial in the *New England Journal of Medicine*.

The multicenter study included 243 patients with stage 3 or 4 CKD who were taking RAAS inhibitors and had a serum potassium level of 5.1 to less than 6.5 mmol/L. All received 4 weeks of treatment with patiromer. The starting dose was 4.2 or 8.4 g twice daily. Patients whose potassium level decreased to the target range (3.8 to less than 5.1 mmol/L) were eligible for an 8-week randomized withdrawal phase, with one group continuing to receive patiromer and the other switching to placebo. Changes in potassium level were compared between groups.

The mean reduction in serum potassium during the initial treatment phase was 1.01 mmol/L, and 76 percent of patients reached the target range by 4 weeks. Among 107 patients enrolled in the withdrawal phase, potassium levels increased by 0.72 mmol/L within 4 weeks for those switching to placebo, compared with no change for those continuing to receive patiromer. The rates of recurrent hyperkalemia (potassium level 5.5 mmol/L or higher) were 60

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percent versus 15 percent, respectively. During the initial treatment phase, mild to moderate constipation occurred in 11 percent of patients and hypokalemia in 3 percent.

Patiromer—a nonabsorbed polymer that binds potassium in exchange for calcium—was developed to meet the need for effective outpatient treatments for hyperkalemia. This two-phase trial supports its effectiveness in reducing potassium levels and the rate of recurrent hyperkalemia in CKD patients taking RAAS inhibitors. Hypokalemia appears to be an infrequent and reversible event in patients taking patiromer [Weir MR, et al. Patiromer in patients with kidney disease and hyperkalemia receiving RAAS inhibitors. *N Engl J Med* doi: 10.1056/NEJMoa1410853].

Longer Steroid Courses Don't Affect Recurrence Rate in Nephrotic Syndrome

For children with steroid-sensitive nephrotic syndrome, extending initial steroid therapy from 3 to 6 months does not affect the subsequent relapse rate, reports a trial in *Kidney International*.

The randomized trial included 219 children with a first episode of steroid-sensitive nephrotic syndrome, enrolled at five academic hospitals in India. After 3 months of standard therapy with prednisolone, 181 children were assigned to receive 3 additional maonths of prednisone or 3 months of placebo therapy. The effects of extended steroid therapy on the risk of future relapse were assessed.

The cumulative initial prednisolone dosage was about 3500 mg/m^2 in the 6-month group versus 2800 mg/m^2 in the 3-month group. On intention-to-treat analysis, the numbers of steroid-sensitive relapses during the year after randomization were 1.26 and 1.54, respectively. The difference was not significant after adjustment for sex, age, and time to initial remission. The rates of sustained remission, frequent relapses, and adverse steroid effects were similar as well.

For children with idiopathic nephrotic syndrome, multiple relapses are associated with a risk of serious complications and medication-related adverse events. Some reports have suggested that a prolonged course of initial prednisolone therapy can reduce the relapse rate, although these studies have had important limitations.

The new trial finds no reduction in relapse rate for children with steroid-sensitive nephrotic syndrome assigned to 3 months versus 6 months of initial prednisolone therapy. Although extended treatment can postpone the occurrence of initial relapse, the 1-year relapse rates are similar between groups. A Japanese trial comparing 2 months versus 6 months of prednisolone, published in the same issue (*Kidney Int* 2015; 87:225–232), reaches a similar conclusion [Sinha A, et al. Extending initial prednisolone treatment in a randomized control trial from 3 to 6 months did not significantly influence the course of illness in children with steroid-sensitive nephrotic syndrome. *Kidney Int* 2015; 87:217–224].

Surgical Robots Linked to Increased Rates of Partial Nephrectomy

Hospitals acquiring surgical robots are more likely to perform guideline-recommended partial nephrectomy in patients with renal cancer, reports a study in *Medical Care*.

The researchers used payer data from seven states to identify nearly 21,600 nephrectomies performed in 2001, 2005, and 2008. Hospital-level rates of partial nephrectomy were analyzed in relation to the hospitals' acquisition of a surgical robotic system. The association was adjusted for nephrectomy volume, year of surgery, and other hospital factors.

Hospitals performed more partial nephrectomies after acquiring surgical robots. For hospitals acquiring robots between 2001 and 2004, the proportion of

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