Intensive BP Reduction Linked to Higher CKD Incidence

In patients with hypertension and chronic kidney disease (CKD), more-intensive blood pressure-lowering therapy is associated with lower mortality risk, concludes a meta-analysis in *JAMA Internal Medicine.*

A systematic review identified 30 randomized clinical trials comparing more-intensive versus less-intensive blood pressure control in adults with stage 3 to 5 CKD. Meta-analysis comprised mortality data from 18 trials including 15,924 participants with CKD, 1293 of whom died. Thirteen trials had two defined blood pressure targets; five studies compared blood pressure-lowering therapy with no treatment or placebo.

At baseline, systolic blood pressure was similar between groups: mean 148 mm Hg. Mean reductions in systolic blood pressure were 16 mm Hg in patients assigned to the more-intensive interventions versus 8 mm Hg in the less-intensive group.

Mortality was 7.8% in the more-intensive group versus 8.4% in the less-intensive group. The reduction in all-cause mortality was significant; odds ratio 0.86. There was no evidence of heterogeneity, and the results were similar in subgroup analyses, including exclusion of SPRINT.

This meta-analysis suggests a 14% reduction in all-cause mortality with more-intensive blood pressure-lowering therapy among patients with stage 3 to 5 CKD. The mortality benefit appeared larger in trials with greater reductions in systolic blood pressure, although this was not significant. While emphasizing the need for further studies and safety monitoring, the investigators conclude, “[T]he data support that the net benefits may outweigh the net harms of more intensive BP lowering in persons with CKD” (Malhotra R, et al. Association between more intensive vs less intensive blood pressure lowering and risk of mortality in chronic kidney disease stages 3 to 5: a systematic review and meta-analysis. *JAMA Intern Med* 2017; DOI:10.1001/jamainternmed.2017.4377).

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**Industry Spotlight**

**Minimal Contrast Dye Product Development**

Two companies with products that reduce the amount of contrast dye in a patient’s system are raising money to increase sales and to support critical research. Contrast dye used in vascular and other imaging may cause such complications as acute kidney injury (AKI) in kidney-impaired patients.

Osprey Medical’s (Minnetonka, MN) DyeVert PLUS, which received FDA marketing clearance in March 2017, allows for a minimization of contrast dose, contrast monitoring in real-time, and notification to physicians when limits based on kidney function are reached. A special syringe allows release of minimal dye needed, with recapture of the unused portion.

Osprey plans to expand its U.S. sales team, with a focus on regions with higher rates of AKI, and to begin a pilot sales program in Germany.

Milford, Massachusetts-based RenalGuard also aims to attract funding for a trial of its contrast dye product, reports Fierce Biotech, a pharmaceutical industry blog. The company raised $14.5 million in March.

RenalGuard Therapy works by inducing higher rates of urine than are possible with standard diuretics. RenalGuard achieves these urine rates by monitoring and matching a saline infusion rate to the patient’s urine output milliliter-for-milliliter, minute-by-minute. The automated balancing reduces the risk of over- or under-hydration relative to standard infusion, the company reports. The device protects kidneys by increasing urine in order to flush out contrast dyes before they cause damage.