Is Cranberry Useful in Preventing Recurrent Urinary Tract Infections?

Cranberry capsules aren't as effective as trimethoprim-sulfamethoxazole (TMP-SMX) in preventing recurrent urinary tract infections (UTIs), but TMP-SMX is associated with high rates of emerging antibiotic resistance, concludes a trial published in the Archives of Internal Medicine.

The randomized trial included 221 premenopausal women with a history of recurrent UTIs: at least three symptomatic infections in the previous year. In double-blind, double-dummy fashion, patients were assigned to receive prophylactic TMP-SMX 480 mg once daily, or cranberry capsules 500 mg twice daily. Over 1 year of treatment, the rates and numbers of symptomatic UTIs were compared between groups. The development of antibiotic resistance in native Escherichia coli was monitored as well.

Desensitization Shows Survival Benefit in Kidney Transplant Candidates

For HLA-sensitized patients awaiting a kidney transplant, desensitization therapy followed by HLA-incompatible kidney transplantation leads to better survival than continued waiting for a compatible organ, reports a study published in the New England Journal of Medicine.

The study included a "treatment group" of 211 HLA-sensitized patients who received an HLA-incompatible living donor kidney after undergoing desensitization treatment with plasmapheresis and low-dose, intravenous immune globulin from 1998 through 2009. They were carefully matched to patients who continued to receive dialysis or who underwent dialysis or HLA-compatible kidney transplantation. The Kaplan-Meier estimated survival for patients undergoing desensitization therapy was 90.6 percent at 1 year, 85.7 percent at 3 years, and 80.6 percent at both 5 and 8 years. This was significantly higher than for the "dialysis-only" control individuals, for whom survival was 91.1 percent at 1 year, 67.2 percent at 3 years, 51.5 percent at 5 years, and 30.5 percent at 8 years. It was also superior to the "dialysis-or-transplantation" group: 93.1 percent at 3 years, 56.6 percent at 5 years, and 49.1 percent at 8 years. Desensitization was linked to better survival at all levels of donor-specific anti-HLA antibody.

As Diabetes Increases, So Does Diabetic Kidney Disease

Over the past two decades, the rates of diabetic kidney disease (DKD) in the United States have increased in proportion to the rising prevalence of diabetes, reports a study published in the Journal of the American Medical Association.

The researchers analyzed data from the Third National Health and Nutrition Examination Survey (NHANES III) 1988 to 1994, NHANES 1999–2004, and NHANES 2005–2008. On the basis of a urine albumin-to-creatinine ratio of 30 mg/g or higher and/or a GFR of less than 60 mL/min per 1.73 m², the prevalence of DKD was 2.2 percent in 1988–1994, 2.8 percent in 1999–2004, and 3.3 percent in 2005–2008. This trend toward a rising prevalence of diabe- tes; among individuals with diabetes, the proportion with DKD was unchanged.

The use of glucose-lowering drugs by diabetic individuals increased from 56.2 percent in NHANES III to 74.2 percent in NHANES 2005–2008. The use of renin-angiotensin-aldosterone system inhibitors increased from 11.2 percent to 40.6 percent.

The percentage of diabetic individuals with impaired GFR increased significantly, from 14.9 percent to 17.7 percent. The albuminuria rate decreased nonsignificantly, from 27.3 percent to 23.7 percent.

These cross-sectional NHANES data show an increase in DKD in proportion to the rising prevalence of diabetes in the United States. Among people with diabe- tes, the prevalence of DKD has remained about the same, despite increased use of diabetes therapies. The researchers write, "[A]dditional interventions are needed to prevent the development of diabetes and to target GFR loss once diabetes is diagnosed." (de Boer IH, et al. Temporal trends in the prevalence of diabetic kidney disease in the United States. JAMA 2011; 305:2352–2359).

Ambulatory BP Data Predict Renal and Cardiovascular Risks in Chronic Kidney Disease

In patients with chronic kidney disease (CKD) not yet receiving dialysis, ambula- tory BP monitoring improves the ability to predict renal and cardiovascular events, according to a study published in the Archives of Internal Medicine.

The Italian multicenter cohort study included 436 patients with stage 2–5 CKD who were not receiving dialysis. At baseline, the GFR was 42.9 mL/min per 1.73 m²; diabetes was present in 56.5 percent of patients and cardiovascular disease in 30.5 percent. Office and ambulatory BP data were compared for their ability to predict time to renal death (ESRD or death) and time to fatal or nonfatal cardiovascular events. The median follow-up time was 4.2 years.

The mean office BP was 146/82 mm Hg. During ambulatory monitoring, the daytime BP was 131/75 mmHg and the nighttime BP 122/66 mmHg. At follow-up, 155 patients had reached the renal endpoint, and 103 had reached the cardiovascular endpoint. Patients with daytime systolic BP greater than 126 to 135 mmHg had a higher rate of cardiovascular events: adjusted hazard ratio (HR) of 2.23 at a level of 136–146 mmHg and 3.07 at higher than 146 mmHg. The same groups were at increased risk of renal death: HR 1.72 and 1.85, re- spectively.

Patients with nighttime systolic BP greater than 106–114 mmHg were at increased risk of the cardiovascular endpoint: HR 2.52 at 125–137 mmHg and 4.00 at greater than 137 mmHg. They were also at increased risk of renal death: HR 1.87 and 2.54, respectively. The rates of both outcomes were higher in patients who were "nondippers" and "reverse dippers" receiving ambulatory BP monitoring. Office BP measurements did not predict either outcome.