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WALKING MAY HELP PROTECT KIDNEY PATIENTS AGAINST HEART DISEASE AND INFECTIONS

Modest exercise has anti-inflammatory effects on the body

Highlights

- In kidney disease patients, 30 minutes of walking improved the responsiveness of certain immune cells to a bacterial challenge and induced a systemic anti-inflammatory environment in the body.
- Six months of regular walking reduced immune cell activation and markers of systemic inflammation.

60 million people globally have chronic kidney disease.

Washington, DC (April 3, 2014) — Just a modest amount of exercise may help reduce kidney disease patients' risks of developing heart disease and infections, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN).

Heart disease and infection are major complications and the leading causes of death in patients with chronic kidney disease. It is now well established that immune system dysfunction is involved in both of these pathological processes. Specifically, impaired immune function predisposes to infection, while persistent immune activation leads to a state of chronic inflammation that can damage the insides of blood vessels and increase heart disease risk. Physical exercise may confer benefits by exerting anti-inflammatory effects and enhancing immunity, but such effects have been largely unexplored in kidney disease.

João Viana, PhD, Nicolette Bishop, PhD (Loughborough University, in the UK), and Alice Smith, PhD (University of Leicester) and their colleagues designed a study to explore the impact of exercise on a range of immune and inflammatory parameters in patients with chronic kidney disease.

In an acute exercise study conducted in 15 patients, 30 minutes of walking improved the responsiveness of immune cells called neutrophils to a bacterial challenge in the post-exercise period. It also induced a systemic anti-inflammatory environment in the body.

In a regular exercise study, six months of regular walking (30 minutes/day, five times/week) reduced immune cell activation and markers of systemic inflammation in 20 patients compared with another 20 patients who did not increase their usual activity levels over the same period of time.

“Thus, exercise exerts anti-inflammatory effects in patients with kidney disease and may in this way reduce their high risk for heart disease,” said Dr. Viana. “Our study also found no evidence that this level of exercise might be harmful to the immune system in people with kidney disease.”

Study co-authors include George Kosmadakis, Dipl Med, Emma Watson, PhD, Alan Bevington, DPhil, and John Feehally, DM.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Evidence for Anti-Inflammatory Effects of Exercise in CKD,” will appear online at <http://jasn.asnjournals.org/> on April 3, 2014.

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