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DIALYSIS PATIENTS MAY HAVE FAULTY “GOOD” CHOLESTEROL

Findings help explain why HDL is not linked with reduced heart disease risk in patients with kidney disease

Highlights

- In kidney disease patients on hemodialysis or peritoneal dialysis, enzyme activities involved in HDL metabolism and HDL maturation were significantly altered.
- The normal function of HDL was also compromised in patients on hemodialysis or peritoneal dialysis.

Heart disease is the leading cause of death in patients with chronic kidney disease.

Washington, DC (March 5, 2015) — Kidney disease patients on dialysis often have impaired high-density lipoprotein (HDL) or “good” cholesterol, according to a study appearing in an upcoming issue of the *Journal of the American Society of Nephrology* (JASN). The findings may lead to advances to help protect kidney disease patients’ heart health.

HDL has heart-protective effects due to a variety of properties including its ability to help transport excess cholesterol out of the body and to bind toxic substances in the blood. In the general population, higher levels of HDL are linked with a reduced risk of heart disease; however, no such correlation exists in kidney disease patients on dialysis.

Gunther Marsche, PhD, Michael Holzer, PhD (Medical University of Graz, in Austria) and their colleagues looked to see if dialysis patients might have dysfunctional HDL. When they analyzed blood from 24 hemodialysis patients, 14 peritoneal dialysis patients, and 20 healthy controls, the investigators found that enzyme activities involved in HDL metabolism and HDL maturation were strikingly altered in patients on either type of dialysis. The normal function of HDL was also compromised in patients on hemodialysis or peritoneal dialysis. The time spent on dialysis tended to correlate with the capability of HDL to transport cholesterol, but it was not associated with other functional parameters of HDL.

“These new findings suggest that chronic inflammation associated with kidney disease markedly alters the composition and decreases the function of HDL,” said Dr. Marsche. “Our findings may provide novel clues into the molecular links of kidney disease and heart disease.” The results are especially important because heart disease is the leading cause of death in individuals with chronic kidney disease.

Study co-authors include Gernot Schilcher, MD, Sanja Curcic, MSc, Markus Trieb, MSc, Senka Ljubojevic, PhD, Tatjana Stojakovic, MD, Hubert Scharnagl, PhD, Chantal Kopecky, MSc, Alexander R Rosenkranz, MD, and Akos Heinemann, MD.

Disclosures: The authors reported no financial disclosures.

The article, entitled “Dialysis Modalities and HDL Composition and Function,” will appear online at <http://jasn.asnjournals.org/> on March 5, 2015.

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