COMMENTS AND RESPONSES

Response to Comment on: Gaillard et al. HDL Dysfunctionality (Paraoxonase) Is Worse in Nondiabetic, Postmenopausal African American Than in White Women. Diabetes Care 2011;34:e19

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We agree with the findings of Viktorinova and Kinova (1) in a recent pilot study of 75 nondiabetic white subjects (mean age 42.6 ± 7 years) with no prior history of cardiovascular disease and/or hypertension that examined the relationship between paraoxonase (PON1) enzyme activity and lipid risk factors. The authors found no significant differences in levels of HDL cholesterol and apolipoprotein (apo) A1 (apoA1) among normocholesterolemic (NC) and hypercholesterolemic (HC) men and women. However, serum PON1 activity was lower in HC groups ($P < 0.05$) compared with NC groups. In addition, they found positive correlations between PON1 activity and HDL cholesterol ($r = 0.455$, $P < 0.05$) and apoA1 ($r = 0.697$, $P < 0.05$) in NC women but not HC women or men. The authors postulated that low serum activity of PON1 and altered associations between PON1 activity and HDL as well as apoA1 may deteriorate beneficial functions of HDL and therefore a possible higher risk of initiation and progression of atherosclerosis.

However, in the above study, the authors did not measure LDL oxidation or proinflammatory markers such as high-sensitivity C-reactive protein. In this regard, we found lower PON1 and higher high-sensitivity C-reactive protein and oxidized LDL in our pilot study of postmenopausal African American women when compared with white American women (2). We concur with Viktorinova and Kinova (1) that excessive proinflammatory peptides and enhanced LDL oxidation may be associated with increased cardiovascular disease mortality and morbidity. Therefore, further studies of HDL functionality (PON1) in multiethnic populations including both sexes are warranted to elucidate the significance of these findings.

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References

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2. Gaillard T, Parthasarathy S, Osei K. HDL dysfunctionality (paraoxonase) is worse in nondiabetic, postmenopausal African American than in white women. Diabetes Care 2011;34:e19