
 COMMENTS AND
 RESPONSES

Comment on: Selvin et al. No Racial Differences in the Association of Glycated Hemoglobin With Kidney Disease and Cardiovascular Outcomes. Diabetes Care 2013;36:2995-3001

Selvin et al. (1) add their contribution to the existing extensive evidence of ethnic and racial differences in hemoglobin glycation that compares, in part, non-Hispanic whites with African Americans in the Diabetes Prevention Program (2), Europid with Inuit in Denmark (3), and Africans from Rodrigues with South Asians, Chinese, and Africans from the main island of Mauritius (4). HbA_{1c} use as a diagnostic test for diabetes, then, would be expected to lead to more false-positive results for the latter groups in each of these comparisons (5).

Selvin et al. have examined the effect of race on the utility of HbA_{1c} to predict renal and cardiovascular complications during 18 years of follow-up in the Atherosclerosis Risk in Communities (ARIC) study and purport to show that a similar interpretation of HbA_{1c} in blacks and whites can be made for the diagnosis

and treatment of diabetes. We suspect that that the data from their study actually indicates the opposite. No one could be surprised that, as they show, increasing HbA_{1c} is associated with increasing complication risk in both blacks and whites. The nub of the issue is whether blacks have a different risk of complications than whites at the same HbA_{1c}. This is difficult to ascertain among black subjects with HbA_{1c} \geq 6.5% (48 mmol/mol), whose HbA_{1c} was $7.4 \pm 1.5\%$ (see Table 1 in Selvin et al. [1]). In the more clearly defined 5.7–6.4% (39–47 mmol/mol) range, however, Table 2 in ref. 1 shows that for the seven outcomes examined (chronic kidney disease, fatal or nonfatal myocardial infarction, ischemic or any stroke, heart failure, or all-cause mortality), the hazard ratio (HR) for the increase in risk was considerably lower in blacks than for whites. Indeed, having an HbA_{1c} within this range, compared with being $<5.7\%$, was associated with a statistically significant increase in every one of these complications among whites but only one of the seven complications among black participants. Even Selvin et al. agree that these differences extend to the ultimate clinical outcome of mortality. Compared with HbA_{1c} $<5.7\%$, mortality increased with HbA_{1c} 5.7–6.4% significantly among whites (HR 1.49 [95% CI 1.33–1.68]), but nonsignificantly among blacks (1.11 [0.93–1.33]).

We wonder, then, whether the article might better be titled “Racial Differences Exist in the Association of Glycated Hemoglobin With Kidney Disease, Cardiovascular Outcomes, and Mortality.”

ERIC S. KILPATRICK, MD¹
 ZACHARY T. BLOMGARDEN, MD²

From the ¹Department of Clinical Biochemistry, Hull Royal Infirmary and Hull York Medical School, Hull, U.K.; and the ²Department of Medicine, Mount Sinai School of Medicine, New York, New York.

Corresponding author: Eric S. Kilpatrick, eric.kilpatrick@hey.nhs.uk.

DOI: 10.2337/dc13-1371

© 2013 by the American Diabetes Association. Readers may use this article as long as the work is properly cited, the use is educational and not for profit, and the work is not altered. See <http://creativecommons.org/licenses/by-nc-nd/3.0/> for details.

Acknowledgments—No potential conflicts of interest relevant to this article were reported.

.....

References

- Selvin E, Rawlings AM, Bergenstal RM, Coresh J, Brancati FL. No racial differences in the association of glycated hemoglobin with kidney disease and cardiovascular outcomes. *Diabetes Care* 2013;36:2995–3001
- Herman WH, Ma Y, Uwaifo G, et al.; Diabetes Prevention Program Research Group. Differences in A1C by race and ethnicity among patients with impaired glucose tolerance in the Diabetes Prevention Program. *Diabetes Care* 2007;30:2453–2457
- Jørgensen ME, Bjerregaard P, Borch-Johnsen K, Witte D. New diagnostic criteria for diabetes: is the change from glucose to HbA_{1c} possible in all populations? *J Clin Endocrinol Metab* 2010;95:E333–E336
- Hare MJ, Magliano DJ, Zimmet PZ, et al. Glucose-independent ethnic differences in hba1c in people without known diabetes. *Diabetes Care* 2013;36:1534–1540
- Davidson MB, Schriger DL. Effect of age and race/ethnicity on HbA_{1c} levels in people without known diabetes mellitus: implications for the diagnosis of diabetes. *Diabetes Res Clin Pract* 2010;87:415–421