

Hemoglobin A_{1c} Level vs. Diagnosis of Diabetes as a Predictor of Cardiovascular Risk

Adding glycosylated hemoglobin measurement improved ability to predict cardiovascular risk, but the clinical implications are unclear.

In the widely used [Adult Treatment Panel \(ATP\) III guideline](#), diabetes is a coronary risk equivalent, conferring a 10-year risk for adverse coronary events that exceeds 20%. However, this designation clearly overstates 10-year risk for some patients. Because glycosylated hemoglobin (HbA_{1c}) has been proposed as a more refined predictor of risk, researchers assessed measurement of HbA_{1c} in two prospective cohort studies: the Women's Health Study (24,674 women; median follow-up, 10.2 years) and the Physicians' Health Study II (11,280 men; median follow-up, 11.8 years).

For diabetic women in the Women's Health Study, adding HbA_{1c} to the ATP III model (which includes entries for smoking, blood pressure, and lipids) improved predictive accuracy for adverse cardiovascular events by about 27%, compared with considering all diabetic women as having >20% risk. Fully 72% of diabetic women had predicted 10-year risk *less than* 20%. Among diabetic men in the Physicians' Health Study II, adding HbA_{1c} improved risk classification by about 9%; one quarter of these men had predicted risk less than 20%;

Comment: These results are interesting, but several caveats apply. Relatively few diabetic patients in these cohorts had substantially elevated HbA_{1c} levels. In addition, predictions were based solely on a single baseline HbA_{1c}, whereas levels often vary over time. The real question — which this study was not designed to answer — is whether refined risk prediction in diabetic patients would result in therapeutic changes that ultimately would benefit patients.

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