

Reduced CD34⁺ stem cells predicts CV outcome in T2DM

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(HealthDay)—Reduced baseline levels of circulating CD34⁺ stem cells

predict adverse cardiovascular outcomes for patients with type 2 diabetes, according to a study published online Nov. 4 in *Diabetes Care*.

Gian Paolo Fadini, M.D., Ph.D., from the University of Padova in Italy, and colleagues monitored a cohort of 187 [patients](#) with type 2 diabetes for a median of 6.1 years. Six stem/progenitor cell phenotypes were measured in peripheral blood at baseline, based on expression of CD34, CD133, and KDR.

The researchers found that the primary outcome of time to a first cardiovascular event plus hospitalization for cardiovascular causes occurred in 48 patients (4.5/100 patient-years). Significantly lower CD34⁺ and CD34⁺CD133⁺ cells were seen in patients with versus those without incident cardiovascular events. The rates of cardiovascular events were higher in patients with below median levels of CD34⁺ and CD34⁺CD133⁺. Reduced CD34⁺ and CD34⁺CD133⁺ cell count independently predicted future events in hazard regression analyses (hazard ratios, 2.21 and 2.98, respectively). C statistics, continuous net reclassification improvement, and/or integrated discrimination index were improved with addition of the CD34⁺ cell count to the reference model or the U.K. Prospective Diabetes Study risk engine.

"In patients with type 2 diabetes, a reduced baseline level of circulating CD34⁺ stem cells predicts adverse cardiovascular outcomes up to six years later and improves risk stratification," the authors write.

More information: [Full Text \(subscription or payment may be required\)](#)

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