NEWSLETTER
APRIL 2024

calciscon
CALCIPROTEIN DIAGNOSTICS

T50 predicts mortality in type 2 diabetes

Amarens van der Vaart and her co-workers* from University Medical Center Groningen, the Netherlands, analyzed T50 data from 621 patients with type 2 diabetes (T2D). Mean age was 64.2 ± 9.8 years, 61% were male, and the follow-up time was 7.5 [5.4–10.7] years.

Each 60 min decrease in serum T50 was associated with an increased risk of cardiovascular (fully adjusted HR 1.32, 95% CI 1.08–1.50, and $p = 0.01$) and all-cause mortality (HR 1.15, 95%CI 1.00– 1.38, and $p = 0.04$).

The multivariable linear regression model explained a variance of $R^2 = 0.40$ and included age, smoking, hsCRP, triglycerides, bicarbonate, sodium, phosphate, magnesium and ALAT.

The authors concluded that «***Serum T50 improves prediction of cardiovascular and all-cause mortality risk in individuals with T2D. Serum T50 may be useful for risk stratification and to guide therapeutic strategies aiming to reduce cardiovascular mortality in T2D***»

*Serum T50 predicts cardiovascular mortality in individuals with type 2 diabetes: A prospective cohort study. Van der Vaart, A, Eelderink, C, van Goor, H, Hillebrands, J-L, Te Velde-Keyzer, CA, Bakker, SJL, Pasch, A, van Dijk, PR, Laverman, GD, de Borst, MH. J Intern Med. 2024 Mar 25. Online ahead of print.

Commentary by Prof. Andreas Pasch: Type 2 diabetes is associated with a greatly increased risk of cardiovascular events. Here, a low compared to a high T50 value was associated with a several-fold increased risk of cardiovascular mortality (see Figure). Accumulating evidence suggests that the result of the T50 calciprotein crystallisation test is indeed reflective of a causative factor for this difference. Thus, T50 does indeed appear to capture a biological phenomenon of general importance, reflecting the inflammation, oxidative stress and progression of calcification likely to be caused by calciprotein particles.

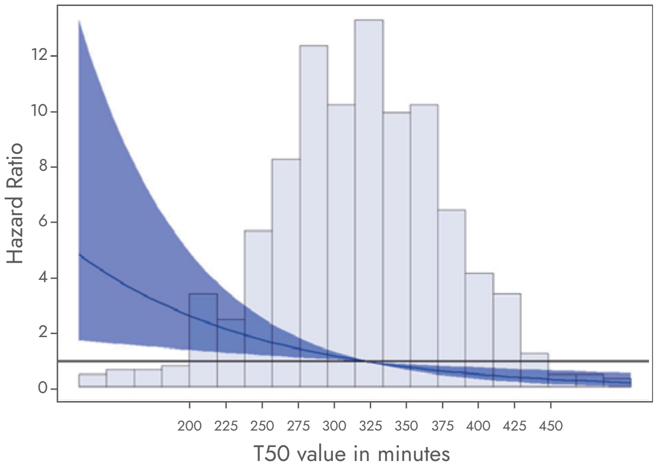

Figure: Serum T50 and cardiovascular mortality in individuals with type 2 diabetes. The hazard ratio is shown as a solid line, and the associated pointwise 95% CIs are represented by the shaded area. Figure is adjusted for age, gender, history of micro and macrovascular disease, smoking, use of alcohol, body mass index (BMI), plasma HDL cholesterol, triglycerides, type 2 diabetes (T2D) years, plasma HbA1c, estimated glomerular filtration rate (eGFR), systolic blood pressure, high sensitive C-reactive protein (hsCRP), and alanine aminotransferase (ALAT).

If you have questions or consider sending research samples, please refer to our website and contact us!

CALCISCON AG
Aarbergstrasse 46 · 2503 Biel · Switzerland
Phone 0041 32 530 88 60
www.calciscon.com · info@calciscon.com