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CHOLESTEROL VARIABILITY AND HEALTH OUTCOMES

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Abstract

Recently, visit-to-visit or day-to-day variability in biological parameters has emerged as a previously unrecognized residual risk factor, which is related to the development of various health outcomes. For example, higher blood pressure variability, lower heart rate variability and higher glucose or HbA1c variability have been linked to cardiovascular events and mortality. These effects remained significant after adjusting for the mean levels of the parameters, suggesting that not only managing the absolute value but also reducing the fluctuation should be targeted to improve health outcomes. Using a large nationwide population-based cohort and a hospital-based cohort database, we examined the prognostic significance of increased variability of cholesterol on various health outcomes including mortality, myocardial infarction, stroke, diabetes, end-stage renal disease and dementia. We showed that high variability in lipid levels is associated with these adverse health-related outcomes suggesting that lipid variability is an important and novel risk factor in the general population.

Keywords

Cholesterol, Variability, Mortality, Cardiovascular disease