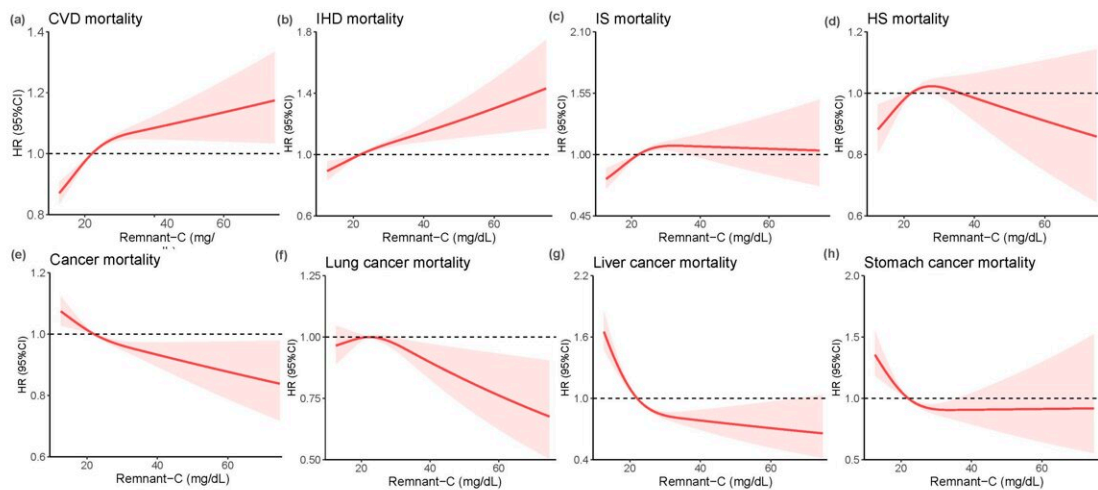


# Associations of remnant cholesterol with cardiovascular and cancer mortality in the ChinaHEART cohort

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Researchers used restricted cubic splines with three predefined knots in competing risk analysis models to evaluate the non-linearity association of remnant cholesterol on a continuous scale and the risk of cause-specific mortality. These models were adjusted for age, sex, education attainment, household income, tobacco smoking, alcohol drinking, BMI, SBP, history of CVD, LDL-C, and lipid-lowering treatment. Credit: Science China Press

The health significance of triglyceride-rich lipoproteins, also known as remnant cholesterol, has been increasingly recognized. However, evidence of their associations with cause-specific mortality in the general population was previously insufficient.

To explore these associations and differences in different subgroups, a study [published](#) in the journal *Science Bulletin* utilized the ChinaHEART cohort, which included 3,403,414 community participants, to assess the impact of various specific factors on mortality risk, including all-cause mortality, [cardiovascular disease](#) mortality (such as ischemic heart diseases, [ischemic stroke](#), and hemorrhagic stroke), and cancer mortality (such as lung cancer, [gastric cancer](#), and liver cancer).

This study was led by Prof. Xi Li (Fuwai Hospital, Chinese Academy of Medical Sciences and Peking Union Medical College), Yuan Tian (Fuwai Hospital, National Center for Cardiovascular Diseases), Yi Wu (Fuwai Hospital, National Center for Cardiovascular Diseases), Minjie Qi (Henan provincial center for Disease Control and Prevention) and Lijuan Song (National Center for Cardiovascular Diseases).

During a median follow-up period of 3.6 years, 23646 individuals died from cardiovascular disease (including 8807 from ischemic heart diseases, 3067 from ischemic stroke, and 5190 from [hemorrhagic stroke](#)), 20318 from cancer (including 6208 from lung cancer, 3013 from liver cancer, and 2174 from gastric cancer).

After adjusting for multiple variables, the study found that compared to the population with remnant cholesterol levels 27.7 mg/dl were as follows: all-cause mortality 1.03 (1.00-1.05), cardiovascular disease mortality 1.17 (1.12-1.21), ischemic heart diseases 1.19 (1.12-1.27), and ischemic stroke mortality 1.22 (1.09-1.36). Conversely, cancer mortality was 0.90 (0.87-0.94) ([lung cancer](#) 0.94 (0.87-1.02), [liver cancer](#) 0.59 (0.53-0.66), and gastric cancer 0.73 (0.64-0.83)).

In summary, this study revealed that an increase in remnant cholesterol is associated with an elevated risk of cardiovascular disease mortality and a reduced risk of death for certain types of cancer.

**More information:** Yuan Tian et al, Associations of remnant cholesterol with cardiovascular and cancer mortality in a nationwide cohort, *Science Bulletin* (2023). [DOI: 10.1016/j.scib.2023.12.035](https://doi.org/10.1016/j.scib.2023.12.035)

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