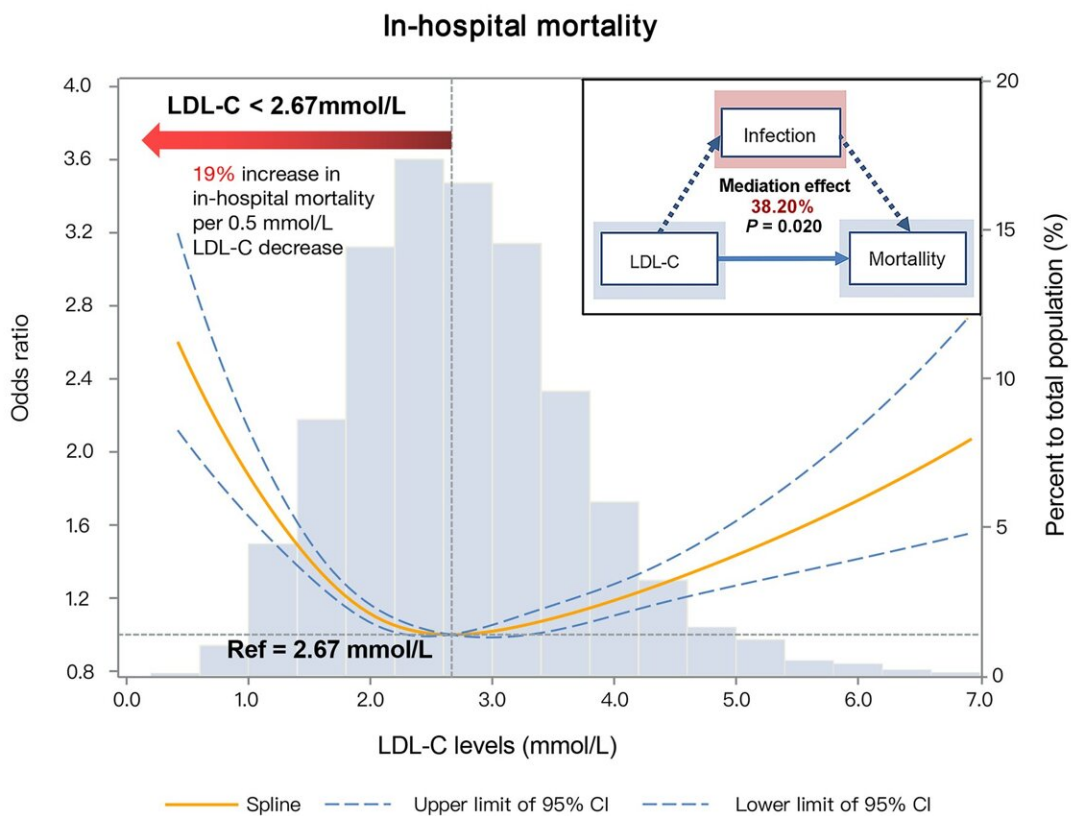


Study finds U-shaped association between LDL-C and mortality risk in acute ischemic stroke patients

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The U-shaped association between LDL-C level and all-cause mortality during hospitalization, and the mediation effect of infection in patients with acute ischemic stroke in the CSCA program. 804,855 patients were included. Abbreviations: LDL-C: low-density lipoprotein cholesterol; CSCA: Chinese

Stroke Center Alliance. Credit: Science China Press

The general perception supports the mantra of "lower is better" for low-density lipoprotein cholesterol (LDL-C) levels in cardiovascular disease. However, during the acute stage of ischemic stroke, it is unclear how to interpret different LDL-C levels accurately. The evidence on clinical implication of LDL-C levels was mainly derived from long-term follow-up studies. The pathophysiological features of patients under the acute stage of ischemic stroke are different from the chronic stage. Concerns exist over whether low LDL-C levels may lead to adverse outcomes, such as increased mortality risk due to infection. The crosstalk between LDL-C and infection is also garnering increasing amounts of interest.

A new study has aimed to evaluate the association between LDL-C levels, post-stroke infection and all-cause [mortality](#). In total, 804,855 ischemic stroke patients were enrolled. Associations between LDL-C levels, infection, and mortality risk were estimated by multivariate logistic regression models. Mediation analysis was performed under counterfactual framework to elucidate the mediation effect of post-stroke infection.

The work is published in *Science Bulletin*.

The study found a U-shaped association between LDL-C and mortality risk in acute ischemic stroke patients. The lowest mortality risk was at an LDL-C level of 2.67 mmol/L. The association between LDL-C and all-cause mortality was 38.20% mediated by infection. Sensitivity analysis showed that after excluding patients with increasing numbers of cardiovascular risk factors, the U-shaped association remained consistent but the LDL-C interval with the lowest mortality risk increased progressively, where infection maintained prominent mediation effects.

Subgroup analysis showed a consistent U-shaped association between LDL-C levels and [mortality risk](#). The mediation effects of infection were largely consistent in subgroups of age ≥ 65 years, female, body mass index

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