



# Elevated lipoprotein(a) and risk of coronary heart disease according to different lipid profiles in the general Chinese community population: the CHCN-BTH study

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We read with great interest the article by Guo *et al.* (1). This study has demonstrated that lipoprotein(a) [Lp(a)] is significantly associated with the risk of coronary heart disease in a dose-responding manner. Subgroup analysis has not altered this association. Our prior cross-sectional study has a similar finding with respect to Lp(a)'s role played in incidence of coronary artery disease (2). However, the study method regarding the synergistic effects between Lp(a) and dyslipidemia should be reconsidered. Assume that risk A for a disease is 1.10 and that risk B for the same disease is 1.21, and coexistent risk A and B for the disease may be greater, equal or less than 1.10+1.21. If coexistent risk A and B for the disease is 1.50 (greater than the sum of the separate effect), the synergistic effect (1.50–1.31), measured by Relative excess risk due to interaction (RERI) (3), occurs. Our previous studies have demonstrated that the Lp(a) has a synergistic effect with low density lipoprotein cholesterol (LDL-C) or body mass index on the incidence of coronary artery disease (4,5).

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## References

1. Guo C, Cao H, Shan G, et al. Elevated lipoprotein(a) and risk of coronary heart disease according to different lipid profiles in the general Chinese community population: the CHCN-BTH study. *Ann Transl Med* 2021;9:26.
2. Cai DP, He YM, Yang XJ, et al. Lipoprotein (a) is a risk factor for coronary artery disease in Chinese Han ethnic population modified by some traditional risk factors: A

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## Hu and He. Synergistic effects between Lp(a) & dyslipidemia

- cross-sectional study of 3462 cases and 6125 controls. *Clin Chim Acta* 2015;451:278-86.
3. Andersson T, Alfredsson L, Källberg H, et al. Calculating measures of biological interaction. *Eur J Epidemiol* 2005;20:575-9.
  4. Teng RL, Wang H, Sun BC, et al. Interaction between lipoprotein (a) levels and body mass index in first incident acute myocardial infarction. *BMC Cardiovasc Disord* 2020;20:350.
  5. Hu Y, Tao JY, Cai DP, et al. Interaction of lipoprotein(a) with low-density lipoprotein cholesterol on first incident acute myocardial infarction. *Clin Chim Acta* 2020;501:1-5.