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## Atherosclerosis

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## Correspondence

**Comments on “Optimising treatment of hyperlipidaemia: Quantitative evaluation of UK, USA and European guidelines taking account of both LDL cholesterol levels and cardiovascular disease risk”**


## ARTICLE INFO

## Keywords:

Atrial fibrillation  
Post operative  
Meta analysis

## To the Editor,

We read with great interest the recent updated article by Soran et al. suggesting lowering of low density lipoprotein (LDL) would further reduce cardiovascular risk [1]. The authors did a great work and we would like to congratulate them. However, we would like to comment on a few issues in the study that are important for clinicians dealing with this situation and expand on the pooled analysis using the same data included in the paper. We would like to emphasize some important points about this well-written study.

When LDL-lowering therapies are prescribed, whether for primary or secondary prevention, it typically means long-term therapy to achieve the anticipated benefits of preventing major cardiovascular events. Therefore, the screening strategy was not ideal. Recent onset of coronary artery disease was probably missed. The association between coronary artery disease and LDL is not surprising, but the authors did not explain in which way their findings may impact daily clinical practice. In our judgment, the authors should share their ideas about this issue with their readers, to add value to their study.

In addition to the important task of evaluating potential side effects of such treatments, the question arises on whether extremely low LDL levels *per se* may provoke adverse effects in humans. Specifically, emphasizing the importance of the robustness of the regulatory systems that maintain balanced fluxes and levels of cholesterol at both cellular and organismal levels. Apparent relationships reported between less pronounced low LDL levels and disease states, such as cancer, depression, infectious disease, hemorrhagic stroke and others, can generally be explained as secondary phenomena [2]. These confounding factors will probably explain this association, but many of them were not taken into consideration in the analysis. However, it would be helpful if the authors provided this information.

A patient-level meta-analysis to clarify this question will help clear the waters further on this issue. Furthermore, subgroup analysis according to gender and medical therapy (statins vs non-statins vs placebo) should be addressed. Additionally, benefit of prophylaxis for primary outcomes existed only by comparison with some of the other standard therapies, but not all lipid-lowering drugs. While advances in technologies have helped elucidate many aspects of these diseases, many questions still remain. Therefore, an in-depth examination of cardiovascular outcome data in conjunction with basic science data is critical for a detailed understanding of benefits and risks of newer treatment modalities.

## Conflict of interest

The author declared he does not have anything to disclose regarding conflict of interest with respect to this manuscript.

## References

- [1] H. Soran, S. Adam, P.N. Durrington, Optimising treatment of hyperlipidaemia: quantitative evaluation of UK, USA and European guidelines taking account of both LDL cholesterol levels and cardiovascular disease risk, *Atherosclerosis* 278 (2018 Aug 30) 135–142, <https://doi.org/10.1016/j.atherosclerosis.2018.08.040>.
- [2] D. Bandyopadhyay, A. Qureshi, S. Ghosh, et al., Safety and efficacy of extremely low LDL-cholesterol levels and its prospects in hyperlipidemia management, *J. Lipids* 2018 (2018) 8598054, <https://doi.org/10.1155/2018/8598054> Published 2018 Apr 23.

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