Expert Review of Clinical Pharmacology ›
Volume 8, 2015 - Issue 2

Perspective

Statins stimulate atherosclerosis and heart failure: pharmacological mechanisms

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Pages 189-199 | Published online: 06 Feb 2015

Cite this article https://doi.org/10.1586/17512433.2015.1011125 Check for updates

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Abstract

In contrast to the current belief that cholesterol reduction with statins decreases atherosclerosis, we present a perspective that statins may be causative in coronary artery calcification and can function as mitochondrial toxins that impair muscle function in the heart and blood vessels through the depletion of coenzyme Q_{10} and 'heme A', and thereby ATP generation. Statins inhibit the synthesis of vitamin K_2, the cofactor for matrix Gla-protein activation, which in turn protects arteries from calcification. Statins inhibit the biosynthesis of selenium containing proteins, one of which is glutathione

peroxidase serving to suppress peroxidative stress. An impairment of selenoprotein biosynthesis may be a factor in congestive heart failure, reminiscent of the dilated cardiomyopathies seen with selenium deficiency. Thus, the epidemic of heart failure and atherosclerosis that plagues the modern world may paradoxically be aggravated by the pervasive use of statin drugs. We propose that current statin treatment guidelines be critically reevaluated.

Keywords: atherosclerosis ATP generation coenzyme Q10 heart failure mitochondrial toxin selenoprotein statin statin cardiomyopathy vitamin K_2

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Erratum

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Acknowledgements

The authors wish to thank JO Langsjoen, MD for his helpful advice in preparing the manuscript.

Financial & competing interests disclosure

The authors have no relevant affiliations or financial involvement with any organization or entity with a financial interest in or financial conflict with the subject matter or materials discussed in the manuscript apart from those disclosed. No writing assistance was utilized in the production of this manuscript.

Key issues

- Pharmacological and biochemical studies reveal the mechanisms of statins to stimulate atherogenesis and heart failure, and some clinical studies support

this interpretation.

- Statins are contraindicated in diabetics as statin administration did not prevent diabetics from CHD (ASPEN [55] and 4D study [56]), and statins worsen diabetic control [7]. Detailed mechanism of statin effects in diabetes has been published [7,19].
- 'Informed consent' of statins should include increased coronary artery disease, heart failure, carcinogenicity, teratogenicity and central and peripheral nervous disorders besides the known adverse effects.
- There have been several clinical papers published in which the abstracts are not consistent with the data in the text.

Notes

How statistical deception created the appearance that statins are safe and effective in primary and secondary prevention of cardiovascular disease >

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