

Do Not Treat Children with Statins

David M. Diamond,¹ Uffe Ravnskov,² Michel de Lorgeril³

University of South Florida, Psychology, Molecular Pharmacology & Physiology,¹ Tampa, Florida – USA

Independent investigator,² Lund - Sweden

School of Medicine, University of Grenoble-Alpes, Laboratoire Coeur et Nutrition, TIMC-IMAG,³ Grenoble – France

In their meta-analysis Radaelli et al. conclude that statin treatment is efficient in lowering lipids in children with familial hypercholesterolemia (FH) and suggest that long-term trials should be performed to establish long-term safety.¹ We would warn against their recommendation for several reasons.

Keywords

Statins; Hydroxymethylglutaryl CoA Reductase; Inhibitors; Hypercholesterolemia Type II/genetics; Children; Meta-analysis.

Mailing Address: David M. Diamond, Ph.D. •

Department of Psychology, PCD 4118G, University of South Florida,
Tampa, 33620 FL, USA

E-mail: ddiamond@usf.edu

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As we have shown in a recent paper,² there is much evidence that high LDL-cholesterol (LDL-C) is not the cause of premature coronary heart disease in FH; it is most likely inborn abnormal coagulation factors, and only a small minority among those with FH inherits these factors. On average, people with FH live just as long as other people because high LDL-C protects against cancer and infectious diseases.² Furthermore, to treat children with statins may ultimately cause them harm because cholesterol is necessary for the developing brain and is an essential precursor for metabolic co-factors and hormones, including vitamin D and all sex steroids.

Finally, it is becoming well-known that the number of adverse effects from statin treatment is much larger and much more serious than reported in the trial reports.^{3,4} Hence, there is justifiable concern that long-term treatment of children with FH will cause them more harm than benefit.

References

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Reply

We thank Ravnskov et al.¹ for the letter, which enables the discussion of a relevant issue and concern in clinical practice for the treatment of children and adolescents with dyslipidemia, especially in long term. The reason for the development of our meta-analysis was based on the use of statins to treat children with secondary dyslipidemia which, to our understanding, is not based on solid evidence. This was the main objective of our meta-analysis, *i.e.*, to identify supporting evidence for this practice, rather than to conduct a review of studies on children with familial hypercholesterolemia.

We searched for evidence for treatment of children with statins on PubMed, EMBASE, Bireme, Web of Science,

Cochrane Library, SciELO and LILACS databases from inception to February 2016. Of a total of 16,793 potentially relevant citations retrieved from the electronic databases, no randomized clinical trial met the inclusion criteria.¹

Although we cited studies on familial hypercholesterolemia in the discussion section, we neither reviewed these studies, nor produced any clinical recommendations for this condition. Our only comment to the letter is the fact, the discussion section of our meta-analysis may have been misinterpreted, as it does not support a recommendation for clinical practice and was not written with such intention. We are thankful for the opportunity to make this clear.²

Letter to the Editor

We can affirm that there is not sufficient evidence to treat children with dyslipidemia with statins, even those with familial hypercholesterolemia, particularly regarding the long-term safety of this practice. In our opinion, this is a matter of great concern, since we did not find any long-term study, or any study describing potential long-term side-effects of early intervention on cholesterol reduction or delay in the appearance of cardiovascular events. In the article, we reported that “children with serious lipid abnormalities due to genetic disorders may meet the criteria for drug therapy with the statins commonly used in adults” (my emphasis). This is not a recommendation and does not exhaust the subject.

We reiterate our conclusion that, before prescribing statins to children with secondary dyslipidemia, studies should be performed to determine whether these drugs can reduce overall and long-term morbidity and mortality, which, again, was the main objective of our study. We believe that Ravnskov et al. make important contributions to this issue, by adding recent data about causal mechanisms of familial hypercholesterolemia, and concerns about the risk of long-term use of statins in this condition. This is corroborated by the studies published in 2018 cited by the authors. Thus, we agree with the authors in suggesting caution in the long-term use of drugs in pediatric patients with chronic conditions.

Graciane Radaelli

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