Statins and Blood Pressure Lowering: A Claim for Ad-Hoc Trials

To the Editor:

An interesting meta-analysis on the blood pressure–lowering effect of statins was recently been published in Hypertension. Strazzullo et al have performed a difficult and laborious review of randomized trials with rigid and very strict inclusion and exclusion criteria. Although there were limitations related to small sample size, inadequacy of previous study designs, heterogeneity of patients, therapies, duration of the trials, and statistical analyses, these limitations have been discussed by the authors. In addition, the most important beneficial vascular pleiotropic effects of statins have been considered and evidence that a clinically meaningful gain is achievable from their use has been provided.

In agreement with the conclusions reached, we want to add some further possible limitations to the analysis that might be taken into account when planning future studies. The trials considered in the metaanalysis included both overweight and obese patients/subjects. In addition, although the heterogeneity of dietary treatments has been carefully reviewed and exhaustively described, there was no possibility to investigate its role. However, no mention in the discussion has been provided with this regard. In some cases, diet-induced weight loss occurred, whereas in others no information on final body weight or BMI was available. Moreover, significant weight loss has been considered an important cause of blood pressure lowering (please see referenced trials included in the meta-analysis).

If endothelial dysfunction represents an abnormality of hypercholesterolemic patients, obesity per se, in particular visceral adiposity, is independently associated with both and also with arterial hypertension. Moreover, progressive increase in body weight alters cholesterol metabolism through lowered absorption and increased synthesis. However, large doses of statin result in decreased synthesis and turnover and increased fractional and mass absorption of cholesterol. In addition, adherence to healthy dietary pattern is demonstrated to improve endothelial dysfunction, particularly when coupled to weight loss. Thus, diet and body weight might significantly contribute to overall improvement of endothelial function, blood pressure, and cholesterol metabolism. These considerations may also help to explain the lack of association between both baseline serum cholesterol and its reduction with the lowering of blood pressure observed by Strazzullo et al.

In conclusion, the present metaanalysis highlights some potential beneficial effects achievable from drugs conceived for other purposes. This evidence should be considered, especially when cardiovascular disease prevention in at-risk patients frequently requires the contemporary treatment of several risk factors (eg, hypercholesterolemia, high blood pressure, diabetes). Finally, ad-hoc trials are clearly warranted.

Disclosures

None.

Emanuele Cereda
International Center for the Assessment of Nutritional Status (ICANS)
University of Milan
Milan, Italy

Angelo Pietrobelli
Pediatric Unit, Verona University Medical School
Verona, Italy

Statins and Blood Pressure Lowering: A Claim for Ad-Hoc Trials
Emanuele Cereda and Angelo Pietrobelli

Hypertension. 2007;50:e12; originally published online June 11, 2007;
doi: 10.1161/HYPERTENSIONAHA.107.091074

Hypertension is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
Copyright © 2007 American Heart Association, Inc. All rights reserved.
Print ISSN: 0194-911X. Online ISSN: 1524-4563

The online version of this article, along with updated information and services, is located on the World Wide Web at:
http://hyper.ahajournals.org/content/50/2/e12

Permissions: Requests for permissions to reproduce figures, tables, or portions of articles originally published in Hypertension can be obtained via RightsLink, a service of the Copyright Clearance Center, not the Editorial Office. Once the online version of the published article for which permission is being requested is located, click Request Permissions in the middle column of the Web page under Services. Further information about this process is available in the Permissions and Rights Question and Answer document.

Reprints: Information about reprints can be found online at:
http://www.lww.com/reprints

Subscriptions: Information about subscribing to Hypertension is online at:
http://hyper.ahajournals.org//subscriptions/