Placebo-Controlled Trial of High-Dose Atorvastatin in Patients With Severe Cerebral Small Vessel Disease

To the Editor:

We read with interest the article by Lavallée et al1 on a placebo-controlled trial of high-dose atorvastatin in patients with severe cerebral small vessel disease. The authors advocate that 3-month treatment with high-dose atorvastatin in severe cerebral small vessel disease showed no significant improvement in endothelial function measured at common carotid and brachial arteries compared with placebo.

We applaud the authors on their study methodology and strict selection criteria. Despite the larger patient number compared with previous studies, the study was underpowered.

The conclusion that 80 mg atorvastatin per day for 3 months did not improve endothelial function measured as cerebrovascular reactivity, in our opinion, is too premature and dismissive of potential therapeutic advantage of statins given overwhelming evidence of statin on endothelial function.2–4 As an efficacy trial, an ideal study situation including adequate power is required to confirm or refute the hypothesis tested.

Furthermore, measurable clinical effects of statins have been shown only over a longer period in large clinical trials.5–7 Therefore, future studies should examine whether a longer duration of therapy improves endothelial function in this particular patient group with severe small vessel disease. Whether improving endothelial function (by any therapeutic agent) in severe small vessel disease produces clinically a significant and measurable outcome is also unknown. We would suggest that despite the firm conclusion by Lavallée et al, a longer study with larger patient numbers may provide a better understanding and deeper insight into the effect of statins in severe cerebral small vessel disease with regard to endothelial function.

Disclosures

None.

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