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Letter to the Editor re: Use of Statins for Prophylaxis Against Acute Mountain Sickness

Dear Editor:

We read with great interest the article titled “Statin use and the development of acute mountain sickness.”³ The authors do present some interesting data regarding the potential benefits of statin therapy for prevention of acute mountain sickness (AMS). We would, however, like to highlight some issues in the article which we feel need clarification. A) The authors have administered the Lake Louise questionnaire for diagnosis of AMS for the first 7 d at high altitude. We presume that the scores presented in the paper are mean scores recorded over these 7 d. It would be nice to know the day-wise break-up of the scores since symptoms of AMS usually subside within 72 h at a particular altitude.⁸ Mean scores, in our opinion, may not be an appropriate method of reporting AMS incidence. B) The time course of onset of the actions of the statins, such as their anti-inflammatory effect, is debatable and there is data to suggest that some of these effects may take weeks to develop.⁴⁻⁷ In this scenario, do the authors envisage a practical use of this drug for the pharmaco-prophylaxis against AMS? C) The role of progesterone in the proposed beneficial effects of statin therapy is not supported by the data presented in the paper. Despite higher progesterone levels in the statin group, the oxygen saturation values are lower than those in the non-statin group. Measurement of end-tidal CO₂ might have provided some interesting data in this regard. D) The incidence of AMS at the given altitude (2835 m; physiological altitude of ~3200 m) appears to be higher than that reported by other studies, even after accounting for a possibly lower barometric pressure at the poles.^{1,2}

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In Response:

Thank you for the opportunity to engage in further academic discourse related to our work. We offer the following responses:

1. The values presented represent the group means of the individual peak scores for each individual during the first 72 h. The break-up of the peak scores were similar to what has been previously presented from the larger population as a whole,¹ with symptoms peaking within the first 72 h as expected.
2. The motivation for the present analysis stems from our previous report that LDL cholesterol itself may be associated with a decreased incidence of acute mountain sickness (AMS).³ As summarized in our current publication, statins as a drug class have a number of theoretical protective properties, including increased anti-inflammatory activity and decreased development of hypoxia-induced pulmonary hypertension;⁵ statins also represent the most commonly prescribed class of medications for cholesterol-lowering

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