

LETTER TO THE EDITOR

Response to the letter: role of remote ischemic preconditioning against acute mountain sickness during early phase by Sikri and Chawla

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We thank Dr. Sikri and Dr. Chawla for their interest in our study. The severity and incidence of AMS were quantified by using the Lake Louise scoring protocol and the AMS-C score of the Environmental Symptom Questionnaire. Subjects were classified as AMS positive with a Lake Louise score ≥ 5 in combination with an AMS-C score ≥ 0.70 when headache was present. This approach identifies clinically relevant AMS and increases the specificity in the diagnosis of AMS. Although a Lake Louise score ≥ 3 points in combination with headache indicates AMS as defined by the Lake Louise Consensus Group (Roach et al. 1993), substantially less than 50% of the mountaineers consider themselves to be sick when fulfilling this criterion score (Bartsch et al. 2004). Applying a Lake Louise score ≥ 3 points for diagnosing AMS in our study (Berger et al. 2015) increases the incidence from 21% to 57% at 5 h and from 43% to 79% at 18 h in the non-preconditioned control group. In the preconditioned group the incidence would increase from 7% to 29% at 5 h and from 43% to 93% at 18 h, respectively. The differences between the preconditioned and the non-preconditioned group fail statistical significance at both 5 h ($P = 0.13$) and 18 h ($P = 0.3$).

At 8 h remote ischemic preconditioning had no significant effect on the severity of AMS (Lake Louise score: 3.2 ± 0.6 vs. 4.5 ± 0.6 , $P = 0.15$; AMS-C score: 0.9 ± 0.2 vs. 1.2 ± 0.2 , $P = 0.14$). However, we hesitate to interpret this finding as demonstration for a RIPC-induced biphasic protection. As outlined in the article it is

not possible to blind subjects to the application of RIPC. Therefore, we cannot exclude that a placebo effect prevented perception of mild symptoms of AMS in the early hours and caused a delayed onset of AMS after the preconditioning stimulus. Studies lasting longer than 18 h are necessary for testing whether remote preconditioning merely delays the onset of AMS or whether a biphasic pattern with a delayed second protective phase after 24 h as suggested by Bolli (2000) accounts for the observed results.

References

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