

Letter to the Editor

Reply to Hemilä by Lykkesfeldt and Poulsen

(First published online 21 September 2010)

In our paper⁽¹⁾, it is clearly stated that we focus on the supplementation of vitamin C and the effect on health in the population at large. Hemilä argues that we have not included vitamin C therapy, i.e. the use of vitamin C as a drug for specific conditions. This is absolutely correct, as this has not been the focus of our paper. We believe that inclusion of the problematic therapeutic area would confuse the issue that our paper focuses on, namely the use of vitamin C supplementation to improve the health of the population. Although the intention of the paper has not been to do a formal 'systematic review', our selection criteria are clearly explained and referenced and are in accordance with those used in a systematic review and meta-analysis of the effect of antioxidants on mortality^(2,3). We therefore do not agree with the criticism regarding the rationale for the selection of the literature.

Hemilä further questions the importance of using hypovitaminosis C as an inclusion criterion in future clinical trials as suggested by us and believes that the statement 'Reviewing the extracted literature, it is striking that no study has used vitamin C deficiency as an inclusion criterion' is misleading. However, although Hemilä left out the first part of the sentence, thereby extending the statement to the entire literature, it remains a fact that none of our cited studies did use this inclusion criterion. Moreover, Hemilä suggests that using only UK trials in a systematic review since 'several surveys in the 1970s and earlier had found a particularly low dietary vitamin C intake in the UK' would serve as a surrogate for the low intake criterion. However, we find this a poor surrogate for hypovitaminosis C as an inclusion criterion. As outlined in the review, the well-established non-linear absorption kinetics of vitamin C clearly renders baseline vitamin C status a major confounder for the effect of its supplementation.

In conclusion, we maintain the view that lack of proper selection criteria dominates the literature on vitamin C and has hampered the ability to judge the possible effect of

vitamin C supplementation whether this is harmful or beneficial.

Acknowledgements

J. L. has no conflicts of interest. H. E. P. is a consultant for the Danish company Ferrosan A/S that produces supplements.

Jens Lykkesfeldt

Department of Veterinary Disease Biology
University of Copenhagen
Copenhagen
Denmark
email jopl@life.ku.dk

Henrik E. Poulsen

Department of Clinical Pharmacology
Copenhagen University Hospital
Copenhagen
Denmark

doi:10.1017/S0007114510003521

References

1. Lykkesfeldt J & Poulsen HE (2010) Is vitamin C supplementation beneficial? Lessons learned from randomised controlled trials. *Br J Nutr* **103**, 1251–1259.
2. Bjelakovic G, Nikolova D, Gluud LL, *et al.* (2007) Mortality in randomized trials of antioxidant supplements for primary and secondary prevention: systematic review and meta-analysis. *JAMA* **297**, 842–857.
3. Kjaergard LL, Villumsen J & Gluud C (2001) Reported methodologic quality and discrepancies between large and small randomized trials in meta-analyses. *Ann Intern Med* **135**, 982–989.