



Letters to the Editor

Characterization of the metabolic and physiologic response to chromium supplementation in subjects with type 2 diabetes mellitus

To the Editor:

With interest, we read the article by Cefalu et al [1] in which the effect of chromium supplementation has been studied and in which differences between responders compared with nonresponders to chromium have been investigated in a randomized, double-blinded, placebo-controlled trial.

We have some concerns with the interpretation of part of the results because, in our opinion, the most important finding of this trial is that supplementation with chromium did not result in an improvement in glycemic control compared with placebo, which is in line with the findings of well-designed placebo-controlled trial in Western patients with diabetes [2]. Furthermore, when in the overall results no differences in effect have been found, then dividing the intervention group in 2 separate cohorts of responders and nonresponders seems stretching statistical possibilities by increasing the type I error, unless perhaps this data management was predefined in the study protocol. What justification can be brought forward to define subgroups of responders and nonresponders in an intervention group when the conclusion is that the patients receiving chromium compared with placebo did not respond?

Unfortunately, there is still no good measure for chromium status [3]. Cefalu et al [1] defined chromium status in their article by measuring urinary and plasma chromium levels. However, we would like to ask the authors if they agree that their results contradict with their definition of chromium status, as they did not find differences in these parameters between the subjects they defined as responders and nonresponders at any time during their trial.

Finally, the authors conclude that the response to chromium is more likely in insulin-resistant individuals in poor glycemic control. We have performed a trial in such patients; however, we could not show any significant effect in this 6-month double-blind study of 500 or 1000 µg chromium compared with placebo on glycemic control [4].

We agree that a measure of chromium status is of interest; but in the meantime, we have to conclude that the highest level of evidence is that chromium supplementation does not result in an improvement of glycemic control in Western patients with type 2 diabetes mellitus.

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