COMMENTS AND RESPONSES

Association of 1,5-Anhydroglucitol and 2-h Postprandial Blood Glucose in Type 2 Diabetic Patients

Response to Schindhelm et al.

We thank Schindhelm et al. (1) for their highly valuable and important comment referring to our study assessing the association of 1,5-anhydroglucitol (1,5-AG) with 2-h postprandial blood glucose (2). We fully agree with these authors on the importance of impaired renal function as a potential factor modifying the association of 1,5-AG and glucose values (1,3). While patients with frank renal failure were excluded from our study, the impact of more moderate changes in renal function on 1,5-AG appears to be less consistent in the literature, with the urinary excretion of 1,5-AG not being universally correlated with the urinary albumin excretion (4). These controversial findings may be at least in part due to different tubular defects in various underlying diseases (4).

Schindhelm et al. correctly noticed that we did not present data on renal function. However, this occurred solely due to space constraints and we are happy to present additional information here. Noteworthy, there was no change in the levels of plasma creatinine from baseline (median 65 μmol/l [interquartile range 53–77]) to study end (67 μmol/l [54–87]; $P = 0.95$). The median values for urinary albumin excretion were low throughout the study: 2.99 mg/mmol creatinine (interquartile range 1.05–6.89) at baseline and even lower at study end (1.43 mg/mmol [0.69–4.45]; $P = 0.11$). In addition, we have extended the sensitivity analysis by adjusting our model for plasma creatinine levels and urinary albumin excretion and found the pattern of the association between 1,5-AG and 2-h postprandial glucose unchanged. 1,5-AG still best reflected the postprandial glucose values of the two previous weeks. We acknowledge that the correlation between 1,5-AG and 2-h postprandial blood glucose values established in our study was moderate. However, the time pattern of the association was robust, even after adjustment for potential effect modifiers, including creatinine and urinary albumin excretion. Of note, this does not exclude the possibility that other parameters not determined in our study also had an effect.

CHRISTOPH STETTLER, MD[1,2]
MATTHIAS STAHL, MD[3]
SABIN ALLEMANN, PHD[1,2]
PETER DIEM, MD[1]
KURT SCHMIDLIN, DMD[2]
MARCEL ZWAHLEN, PHD[2]
WALTER RIESEN, PHD[4]
ULRICH KELLER, MD[5]
EMANUEL CHRIST, MD[1]

From the [1]Division of Endocrinology, Diabetes and Clinical Nutrition, Inselspital and University of Bern, Bern, Switzerland; the [2]Institute of Social and Preventive Medicine, University of Bern, Bern, Switzerland; the [3]Department of Internal Medicine, Cantonal Hospital, Olten, Switzerland; the [4]Institute of Clinical Chemistry, Haematology and Clinical Microbiology & Immunology, Kantonsspital, St. Gallen, Switzerland; and the [5]Division of Endocrinology, Diabetes and Clinical Nutrition, University Hospital, Basel, Switzerland.
Corresponding author: Christoph Stettler, christoph.stettler@insel.ch.
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