Do n–3 fatty acids improve microvascular function in subjects with type 2 diabetes mellitus?

Dear Sir:

I was very interested to read the article by Stirban et al (1) regarding the effects of a diet with n–3 fatty acids on postprandial vascular function in humans with type 2 diabetes mellitus. However, I found aspects of their article confusing. First, the use of olive oil as placebo is questionable due to its vasculoprotective potential described elsewhere (2, 3). Therefore, to conclude that supplementation with n–3 fatty acids has beneficial effects, a comparison between an untreated control group with an n–3 fatty acid–supplemented group should be necessary.

Second, the authors stated that reactive hyperemia as a measure of microcirculation after n–3 fatty acid supplementation was not significantly different from the reactive hyperemia after placebo. However, the data given for fasting in Table 2 (7282 ± 710 U for placebo and 5656 ± 634 U for n–3 fatty acids) seem to indicate a decrease in microcirculation after 6 wk of supplementation with n–3 fatty acids in comparison with placebo and olive oil supplementation. In addition, the data given in Table 2 did not show a postprandial decrease in microvascular function in the placebo group.

Furthermore, direct comparison between groups revealed that the postprandial values of reactive hyperemia at all time points (2, 4, and 6 h) were lower for the n–3 fatty acid–supplemented group than for the placebo group. Furthermore, the 6-h value was noticeably lower (6307 ± 683 U compared with 7379 ± 666 U, respectively).

Because of the reasons mentioned above, the authors’ suggestion that 6 wk of n–3 fatty acid supplementation improved postprandial microvascular function in subjects with type 2 diabetes mellitus cannot be correct. In contrast, the study more likely suggests an impairment of microcirculation after supplementation with n–3 fatty acids in comparison to olive oil or that supplementation with olive oil can abolish the postprandial decrease in microvascular function in subjects with type 2 diabetes, whereas n–3 fatty acids did not show an effect.

The author had no conflicts of interest to declare.

Christian Opländer
University Hospital RWTH Aachen
Biomat/Plastic Surgery
Pauwelstrasse 30
Aachen 52074
Germany
E-mail: coplaender@ukaachen.de

REFERENCES