Antioxidants and Endothelial Dysfunction in Young and Elderly People: Is Flow-Mediated Dilation Useful to Assess Acute Effects?

To the Editor:

Wray et al\(^1\) reported that acute consumption of antioxidants by healthy subjects had diametrically different effects: flow-mediated dilation increased in elderly people but decreased in young people. The opposite effects are difficult to interpret and reconcile with the measured biomarkers of oxidative stress and NO synthesis/bioavailability. Although not representative, an example for the strong limitation of acute changes is the enhancing effect of certain diuretics which renders NO synthesis measurement impossible.\(^2\)

The opposite effects are difficult to interpret and reconcile with the observation that basal oxidative stress can be reduced even in healthy young subjects and contradicts the findings by Wray et al,\(^1\) which show even increases in oxidative stress and decreases in flow-mediated dilation in young people.

In conclusion, the informational value of flow-mediated dilation concerning acute effects of antioxidants on endothelial function is rather low.\(^4\) Plethysmography and accurate assays for nitrite and oxidative stress biomarkers\(^3\) are more reliable to measure reactive hyperemia and endothelial function in clinical studies.\(^5\)

Disclosures

None.

Dimitrios Tsikas
Markus Flentje
Jonas Niemann
Darko Modun
Institute of Clinical Pharmacology
Hannover Medical School
Hannover, Germany


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Dimitrios Tsikas, Markus Flentje, Jonas Niemann and Darko Modun

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