Response to Reduction of Myeloperoxidase Activity by Melatonin and Pycnogenol May Contribute to their Blood Pressure Lowering Effect

We thank van der Zwan et al1 for their interest in our research. We fully agree that a reduction of myeloperoxidase (MPO) activity might have partly contributed to the effects of melatonin and pycnogenol on vascular oxidative stress observed in our study; however, we did not evaluate this aspect specifically. Melatonin was shown to be a potent inhibitor of MPO,3 whereas data regarding pycnogenol are limited in this regard, although a reduction in MPO activity was observed in the intestinal mucosa of treated Sprague–Dawley rats.4 Our data only partly support the hypothesis that MPO inhibition may directly explain blood pressure–lowering effects of the 2 drugs, because we could observe very modest reductions of systolic blood pressure during treatments.2 However, this does not exclude that, as suggested by van der Zwan et al,5 circulating levels of MPO might modulate blood pressure in humans. The issue is, therefore, interesting and stimulating, and the hypothesis proposed by van der Zwan et al deserves to be verified in specific studies. The possibility for reducing oxidative stress and, indirectly, cardiovascular risk through the administration of nutriceuticals represents an interesting and promising area of clinical research.6 We welcome future correspondence, debate, and experimental studies that may extend the present knowledge regarding mechanisms that possibly explain the beneficial effects observed during treatment with melatonin and pycnogenol or with other modulators of oxidative stress.

disclosures

None.

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1. van der Zwan LP, Scheffer PG, Teerlink T. Reduction of myeloperoxidase activity by melatonin and pycnogenol may contribute to their blood pressure lowering effect. Hypertension. 2010;56:e34.
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*Hypertension*. 2010;56:e35; originally published online August 9, 2010; doi: 10.1161/HYPERTENSIONAHA.110.158253

*Hypertension* is published by the American Heart Association, 7272 Greenville Avenue, Dallas, TX 75231
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Print ISSN: 0194-911X. Online ISSN: 1524-4563

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