Uric Acid: Neuroprotective or Neurotoxic?

To the Editor:

A decades-old scientific dispute pits “as a pro-oxidant, uric acid causes disease”1–3 against “urate is an important antioxidant.”2,3 The antioxidant properties of urate are long-known.6 However, arguably, this issue per se originated in our complimentary reports of urate as both a primate evolutionary substitute for ascorbate4 (a putative antioxidant neuroprotectant?) and as a pro-oxidant.2,3 Simply stated, in addition to being an important pathogenic, oxidative stress may be the price paid for the protective presence of urate when things go bad acutely. Similarly, the uniquely high levels of urate and other antioxidants in primates might partially account for the mismatch between human and animal studies on antioxidant neuroprotectants.

Disclosures

P.H.P. has patent claims to TEMPOL.

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