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LETTER TO THE EDITOR

The role of milk protein in increasing risk of Parkinson's disease

William B. Grant

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I read with interest the finding that total dairy and milk consumption were significantly correlated with incidence of Parkinson's disease (PD) in a large study in Greece [1]. However, the component of dairy and milk that might provide the link was not identified and the possible mechanism was not proposed. This letter does both.

A study from the Health Professionals Follow-Up Study identified milk protein, which is primarily casein, as the component of milk correlated with incidence of PD [2]. At about the same time, I also found that milk protein had the highest correlation (direct) with PD mortality rates in an unpublished 58-country ecological study of dietary factors in which I separated milk into its components fat, protein, and nonfat milk as well as included many other dietary supply factors in the analysis.

The mechanism whereby casein increases the risk of PD is evidently through reducing serum urate or uric acid concentrations [3]. Urate or uric acid is a strong antioxidant, scavenging superoxide, peroxynitrite and hydroxyl radical [4], and has been found inversely correlated with prevalence [4] and risk of PD [5]. Ref. [4] found significant inverse correlations of uric acid with PD disease duration and daily levodopa usage for men but not for women. This finding could help explain the marginally non-significant finding of PD risk for women compared to men in Ref. [1].

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W. B. Grant (✉)
Sunlight, Nutrition, and Health Research Center,
P.O. Box 641603, San Francisco, CA 94164-1603, USA
e-mail: wbgrant@infionline.net
URL: www.sunarc.org