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Niacin enhancement for parkinson's disease

We discovered that many individuals with Parkinson's Disease (PD) have a vitamin B3 deficiency. Levels were 3.4 standard error lower than age-matched controls. The deficiency may be related to carbidopa interaction, defective tryptophan metabolism and stresses of nightsleep disorder. Vitamin B3 supplies energy in all cells by producing NAD+ and NADP+ in redox reactions of oxidative phosphorylation. Some symptoms of the disease such as fatigue, sleep dysfunction and mood changes may be related to the deficiency. We conducted an exploratory randomized pragmatic trial to determine the effect of low-dose niacin (a B3 derivative) enhancement in PD individuals. An average of 6.4-point improvement in the UPDRS motor score was observed after 12 months of daily niacin. Many secondary outcome measures also improved. Notably, handwriting size increased, fatigue decreased, mood improved, frontal beta rhythm during quiet stance increased, stance postural sway amplitude and range of acceleration decreased. Set shifting however, as measured by the Trail Making-B test, worsen from 66 to 96 seconds. Other measures did not change after 12 months but it is not clear whether this represents a positive benefit of the vitamin. For example, while the quality of nightsleep remained the same, there was a trend towards a decrease in the frequency of awakening episodes. These preliminary results suggest that niacin enhancement may maintain or improve quality of life in PD. A larger and longer-term double-blinded trial needs to be conducted to better understand the benefits of vitamin B_3 in PD.

Biography

Raymond Chong completed his PhD in 1997 from the University of Oregon. He is the director of the Augusta University's Applied Health Sciences graduate program. He is the lead author in over 70% of his papers. Dr. Chong is a regular reviewer for the US Veteran Affairs Research department and also serves.

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