

**The Movement Disorder Society's
16th International Congress of Parkinson's Disease and Movement Disorders
Dublin, Ireland
June 17-21, 2012**

Abstract: 421

Caffeine for treatment of Parkinson's disease – A randomized controlled trial

R.B. Postuma, A.E. Lang, R.P. Munhoz, K. Charland, A. Pelletier, M. Moscovich, L. Filla, D.R. Zanatta, S. Rios Romenets, R. Altman, R. Chuang, B. Shah (Montreal, QC, Canada)

Objective: The objectives of the study were to assess the utility of caffeine for excessive daytime somnolence in PD, to assess tolerability, motor effects, and other potential non-motor effects of caffeine in PD, and to provide a basic assessment of caffeine's effects in PD.

Background: Epidemiologic studies consistently link caffeine, an adenosine 2A antagonist, to lower risk of Parkinson's disease. However, the symptomatic effects of caffeine in Parkinson's have not been adequately evaluated.

Methods: We conducted a six-week randomized controlled trial of caffeine in Parkinson's to assess effects upon excessive daytime somnolence, motor severity, and other non-motor features. Parkinson's patients with daytime somnolence (Epworth scale >10) were given caffeine 200mg twice daily x3 weeks then 200mg twice daily x3 weeks, or matching placebo. The primary outcome was change in Epworth at six weeks. Secondary outcomes included motor severity, sleep markers, fatigue, depression and quality of life. Effects of caffeine were analyzed with Bayesian hierarchical models, adjusting for study site, baseline scores, age, and sex.

Results: Of 61 patients, 31 were randomized to placebo and 30 to caffeine. On the primary intention-to-treat analysis, caffeine resulted in a non-significant reduction in Epworth (-1.71 points, 95%CI=-3.57,0.13). However, somnolence improved on clinical global impression-change (+0.64 (0.16,1.13), intention-to-treat), with significant reduction in Epworth on per-protocol analysis (-1.97 (-3.87,-0.05). Caffeine reduced the Unified Parkinson's Disease Rating Scale (4.69 points,95%CI=7.7,1.6) and the objective motor component (3.15 points,95%CI=5.50,0.83). Other than modest improvement in global health measures, there were no changes in quality of life, depression or sleep quality. Adverse event frequency was comparable in caffeine and placebo groups.

Conclusions: Although caffeine provided only equivocal borderline improvement in excessive somnolence in PD, it did improve objective motor measures. These potential motor benefits suggest that a larger long-term trial of caffeine is warranted.