

Subcutaneous infusion of levodopa-carbidopa beneficial for Parkinson's disease

April 13 2024, by Elana Gotkine



Subcutaneous infusion of ND0612 (a levodopa-carbidopa solution) increases on time without troublesome dyskinesia among patients with Parkinson disease, according to a study published online March 15 in *The Lancet Neurology*.

Alberto J. Espay, M.D., from the University of Cincinnati, and

colleagues examined the safety and efficacy of a continuous 24-hour/day subcutaneous infusion of ND0612 compared with oral immediate-release levodopa-carbidopa for the [treatment](#) of motor fluctuations in Parkinson's disease. Participants underwent an open-label run-in phase and were then randomly assigned (1:1) to 12 weeks of treatment with their optimized regimen of subcutaneous ND0612 or oral levodopa-carbidopa, with matching oral or subcutaneous placebo given as required to maintain blinding. A total of 381 participants were enrolled; 259 were randomly assigned to receive subcutaneous ND0612 (128; 49 percent) or oral levodopa-carbidopa (131; 51 percent).

The researchers found that compared with oral levodopa-carbidopa, treatment with subcutaneous ND0612 provided an additional 1.72 hours of on time without troublesome dyskinesia (change from baseline, -0.48 and -2.20 hours, respectively). In the first four of nine prespecified hierarchical outcomes of daily off time (-1.40 hours), Movement Disorders Society-Unified Parkinson's Disease Rating Scale part II scores (-3.05), Patients Global Impression of Change (odds ratio, 5.31), and Clinical Global Impression of Improvement (odds ratio, 7.23), significant treatment differences favoring subcutaneous ND0612 were seen. After the fourth secondary end point, hierarchical testing ended.

"ND0612 infusion could offer an efficacious and safe individualized [infusion](#) approach to managing motor fluctuations in people with Parkinson's disease before considering surgery-associated interventions," the authors write.

Several authors disclosed ties to biopharmaceutical companies, including NeuroDerm, which is developing ND0612 and funded the study.

More information: Alberto J Espay et al, Safety and efficacy of continuous subcutaneous levodopa-carbidopa infusion (ND0612) for Parkinson's disease with motor fluctuations (BouNDless): a phase 3,

randomised, double-blind, double-dummy, multicentre trial, *The Lancet Neurology* (2024). DOI: [10.1016/S1474-4422\(24\)00052-8](https://doi.org/10.1016/S1474-4422(24)00052-8)

Francisco Cardoso et al, Fluctuations in Parkinson's disease: progress and challenges, *The Lancet Neurology* (2024). DOI: [10.1016/S1474-4422\(24\)00116-9](https://doi.org/10.1016/S1474-4422(24)00116-9)

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