Gastrointestinal dysmotility is the major cause of motor fluctuations in PD - PRO

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Parkinson's disease (PD) is the second most prevalent neurodegenerative disease, after Alzheimer's, and meanwhile it is probably the most efficiently treated among all neurodegenerative conditions. Gut motility is affected from the clinical onset of PD in a substantial proportion of patients and Heiko Braak pathology studies showed that abnormal aggregation of alpha-synuclein starts in the enteric plexuses, with secondary spread in the central nervous system. However, in advanced fluctuating patients, when the substantia nigra dopaminergic neuronal population is largely depleted and the levodopa storage capacity is lost, the striatal dopamine release becomes dependent on levodopa plasma concentration. Therefore, in this stage of PD, conventional levodopa oral therapy is hampered by delayed, unpredictable gastric emptying. One substantial proof that gastrointestinal dysmotility is the cause of motor fluctuations is that therapy with levodopa/carbidopa intestinal gel dramatically improves motor fluctuations in PD advanced patients.