Parkinson's disease case series

see Deep brain stimulation for Parkinson's disease case series.

Data were acquired during resting state on 34 Parkinson's disease patients and 25 controls. The ratio of standard uptake value for PET images and the subthalamic nucleus (STN) Dynamic functional connectivity (FC) maps for fMRI data were generated. The metabolic connectivity mapping (MCM) approach that combines PET and fMRI data was used to evaluate the direction of the connectivity. Results showed that PD patients exhibited both increased FDG uptake and STN-FC in the sensorimotor area (PFDR < 0.05). MCM analysis showed higher cortical-STN MCM value in the PD group (F = 6.63, P = 0.013) in the left precentral gyrus. There was a high spatial overlap between the increased glucose metabolism and increased STN-FC in the sensorimotor area in PD. The MCM approach further revealed an exaggerated cortical input to the STN in PD, supporting the precentral gyrus as a target for treatment such as the repetitive transcranial magnetic stimulation [1)]

1)
Zang Z, Song T, Li J, Nie B, Mei S, Zhang C, Wu T, Zhang Y, Lu J. Simultaneous PET/fMRI revealed increased motor area input to subthalamic nucleus in Parkinson's disease. Cereb Cortex. 2022 Feb 23:bhac059. doi: 10.1093/cercor/bhac059. Epub ahead of print. PMID: 35196709.