

[1P]F. 神経系の疾患 2

2022年6月30日(木) 13:00 ~ 14:00 ポスター会場2 (宜野湾市民体育館)

[1P-215]パーキンソン病に伴う衝動的行動の神経基盤—本邦での後方視的検討

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キーワード：Parkinson's Disease, impulsive compulsive behaviours, functional connectivity, voxel based morphometry

Objectives: Parkinson's Disease (PD) is a neuro-degenerative disease, characterised by decreased dopamine-production in the midbrain. Some PD patients present impulsive compulsive behaviours (ICB) such as pathological gambling and hypersexuality. ICB deteriorate patients' and their caregivers' quality of life, and nucleus accumbens (NAcc) was proposed to be involved in ICB, since NAcc is important in reward-based learning and its activation is affected by dopamine (Haber et al. 2010). However, the neural correlates of these behaviours in Japanese PD patients were unexplored. Here, we show that ICB were associated with functional connectivities (FC) of the right NAcc in PD patients.

Methods: 150 PD patients from our existing cohort study were investigated retrospectively. They underwent T1 weighted and resting state functional MRI scans. They were divided into two groups (ICB and non-ICB group) by the Japanese version of Questionnaire for Impulsive-Compulsive Disorders in Parkinson's Disease (J-QUID). In these groups, 74 patients matched for age, gender, and disease durations were analysed. To identify the functional characteristics of ICB, the FC of NAcc were compared between these two groups. Grey matter volumes (GMV) were also compared to identify structural correlates of ICB.

Results: Between ICB and non-ICB groups, we found no significant differences in levodopa equivalent daily dose or degree of motor symptoms, cognitive dysfunctions, depressions, and sleepiness. ICB group showed decreased FC between the bilateral orbito-frontal cortex (OFC) and the right NAcc, as well as increased FC between left middle occipital gyrus (MOG) and the right NAcc, compared with non-ICB group. We found no significant difference in the GMV between ICB and non-ICB groups.

Discussion: The OFC has projections to the NAcc and plays a crucial role in action inhibition. We speculate that the decreased FC between the right NAcc and the bilateral OFC in ICB group might reflect the disrupted regulation from the bilateral OFC to the right NAcc. By contrast, the increased FC between the right NAcc and the left MOG might reflect the disrupted visuo-spatial memory, which was reported in PD patients with ICB (Weintraub et al. 2017).

Conclusion: FC of the right NAcc were altered in ICB group. These connectivities can be useful biomarkers for detecting ICB in PD and might serve as new targets for treating these symptoms.