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PO-095 - (23807) - EARLY PAIN BEHAVIOR ASSESSMENT AS PRE-SCREENING IN PARKINSON'S RAT MODEL

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Accumulating studies have shown increased subjective pain sensitivity in Parkinson’s Disease (PD), which appears to be partially reversed by dopaminergic (DA) treatment. The symptoms of Parkinson’s disease may include motor dysfunction as well as common non-motor PD-associated issues such as pain and depression. Investigating disease progression and the therapeutic effects using PET imaging could enhance clinical applications.

This study aimed to investigate the specific timepoints at which central pain behaviors develop. We started to assess pain behaviors one and two weeks after 6-OHDA lesioning, prior to performing the motor rotation test in a rat hemi-parkinsonian model. Following the motor rotation test, we evaluated pain behaviors, depression behaviors, and conducted PET imaging using 4-[18F]-ADAM to target serotonin transporters, as well as [18F]PE2-1 to measure dopamine transporter (DAT) expression at various timepoints.

Preliminary findings indicate the development of central pain behaviors prior to the induction of the motor rotation test in 6-OHDA-induced PD rats. PET images of rat brains and standard uptake values (SUV) were increased in 6-OHDA-induced PD rats.

This study highlights the value of assessing pain behaviors earlier, before the induction of the motor rotation test, and suggests the potential application of PET imaging for clinical purposes, particularly in monitoring PD progression, including the development of depression and pain.

Palavras-chave : hemi-parkinsonian model, PET imaging, central pain