Functional neuroproteomic changes associated with L-Dopa-induced dyskinesia in Parkinson´s disease

https://www.neurodegenerationresearch.eu/survey/functional-neuroproteomic-changes-associated-with-l-dopa-induced-dyskinesia-in-parkinsons-disease/

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Country

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Title of project or programme

Functional neuroproteomic changes associated with L-Dopa-induced dyskinesia in Parkinson´s disease

Source of funding information

Swedish Research Council

Total sum awarded (Euro)

€ 435,256

Start date of award

01/01/2014

Total duration of award in years

4

Keywords
Research Abstract
The main objective of the present research is to study functional protein, peptide and neurotransmitter neurochemical processes in Parkinson disease (PD) and specifically L-Dopa-induced dyskinesias (LID). No treatment exists yet for the management of LID, a debilitating complication of L-dopa therapy for PD. The proposed project utilize state-of-the-art technology approaches for the investigation of protein, peptide and neurotransmitter concentrations and

interactions in the basal ganglia and associated structures in dyskinetic and non-dyskinetic subjects. Pathway analysis is performed to convert quantitative data on the expression levels of proteins and peptides into the quantitative signaling status of the cells. Novel mass spectrometry methodology is used to image and quantitate neurotransmitters and their precursors directly in brain tissue sections. We have access to a comprehensive and truly unique biobank of primate brain tissue (Macaca fascicularis) consisting of seven experimental groups (n=8). We are investigating several novel drug therapeutic approaches emerging for PD and LID and their effect on neuropeptides, proteins and neurotransmitters in rodents. These are focused on the non-dopaminergic systems and are designed to improve motor function without the risk for motor complications associated with L-Dopa, and also to improve dyskinesia itself. Novel information on proteins and peptides involved in PD and LID may generate new targets for developing new drugs.

Further information available at:

Types:
Investments < €500k

Member States:
Sweden

Diseases:
N/A

Years:
2016

Database Categories:
N/A

Database Tags:
N/A