

## **Mini-talk:**

### **Depletion of striatal dopamine induces fatigue-like symptoms in mice**

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Fatigue is a common complaint of patients affected by Parkinson's disease (PD) and it is often the most troubling of all non-motor symptoms since it compromises the quality of life. Fatigue etiology/pathophysiology is poorly understood, generally under-recognized as a symptom, and so far, has no clinical treatment. In order to understand the mechanisms of fatigue, it is important to distinguish symptoms of peripheral neuromuscular fatigue from the symptoms of central fatigue characteristic of basal ganglia disorders, such as PD. Fatigue, clinically defined as an overwhelming sense of tiredness, lack of energy and feelings of exhaustion has a high prevalence (up to 58%), in affected PD individuals. We investigated whether Levodopa (the gold-standard pharmacological treatment for PD) administration could attenuate fatigue-like symptoms by restoring striatal dopamine levels in an experimental model for PD induced by reserpine in mice. Our results suggest the impaired dopaminergic system might underlie the mechanisms of fatigue-like symptoms without involvement of peripheral or emotional factors in this of PD experimental model. In addition, Levodopa treatment alleviates the fatigue-like symptoms in both voluntary and forced exercise protocols.