



Parkinson's disease: causes & cures

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Causes for Parkinson's disease - Roberto Cilia

Abstract

Parkinson's disease (PD) is a multisystems disorder progressively affecting both dopaminergic and nondopaminergic neurons of the central and peripheral nervous systems. Despite the causes of PD are still largely unknown, current knowledge converges on a multifactorial etiology. Sporadic forms of PD are likely to be caused by the combined effects of a genetic predisposition associated with environmental causes (eg, pesticides and solvents). Recently, changes in the gut microbiota has been suggested to promote local and/or system inflammatory processes triggering misfolding, accumulation and aggregation of α -synuclein. Accumulating evidence supports the hypothesis that pathological α -synuclein aggregates are able to spread from-cell-to-cell with a prion-like mechanism, seemingly supporting the Braak's hypothesis of pathological spreading from the peripheral to the central nervous system (via either the vagus nerve or the olfactory bulb). However, the relationship between pathological α -synuclein aggregates and neuronal loss is still unclear. This knowledge gap on the PD pathogenesis needs further translational research to be filled, aiming to identify the targets for effective disease-modifying therapies.



Roberto Cilia is a clinical neurologist, specialised in Neurology at the University of Milan-Bicocca (Italy) and currently working at the Parkinson Institute of Milan. In 2009, He completed a Research Fellowship at the PET Imaging Centre of the University of Toronto (Canada). In 2010, he received the Junior Award for best clinical research by the Movement Disorders Society. Since 2017, he teaches on Parkinson's disease at the School of Specialisation in Neurology, University of Milan-Bicocca. He is the Director of the Parkinson Institute Biobank. He is a member of the Neuroimaging Study group and a member of the African Task Force of the Movement Disorders Society. He is part of the editorial board of the journal 'Parkinsonism and Related Disorders'.