Improving Outcome in Subclinical Manifestations of Neuronal Degeneration and Parkinson's Disease

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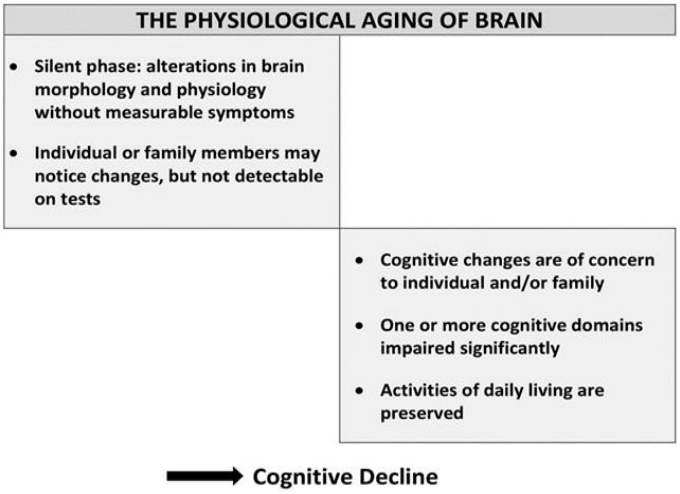
Abstract

The older adults suffer with neuropsychological aging changes at the functional level in form of cognition and memory impairment due to changes in neurotransmitters and various receptors. Whereas deficit in orientation is another common and initial symptom. The studies suggests that normal aging is associated with non-significant declines in cognitive abilities and orientation. A significant decline in orientation may point to underlying Parkinson's disease. The measures to retard cognitive decline with aging may help in improving outcome for Parkinson's disease patients. Various specific and nonspecific biological, genetic, and environmental factors are linked to susceptibility to impairment in and cognitive decline, orientation, and movement execution.

Certain factors and measures appear to delay the cognitive decline associated with the aging process. Some of these are specific, such as, high level of education, staying intellectually engaged in mental activities and maintaining social and friendship networks. Whereas other non-specific factors that delay the aging process, like maintaining a healthy diet, including omega-3 fatty acids, and protective antioxidants may help in improving the outcome in Parkinson's disease. A regular physical exercise increases the executive functioning and reduces the aging-related expected decline of white and grey tissue density. The healthy lifestyle that reduces cardiovascular risk, will also benefit the brain.

The calorie restriction (CR) is a tool to prevent or slow down aging process, cognitive decline, and outcome in underlying Parkinson's disease with subclinical manifestations. It protects the brain from aging changes and neurodegeneration through increased activities of plasma membrane redox enzymes and antioxidants like α-tocopherol and coenzyme Q10. The CR has been proven to reduce metabolic rate and oxidative stress, improves insulin sensitivity, and alters neuroendocrine and sympathetic nervous system function. CR, thus, appears to attenuate age-related deficits in brain function and protect neurons and may help outcome in neurodegenerative diseases including Parkinson's disease.

Image



The Physiological Aging and Cognitive Decline

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