

Rehabilitation

Is vagotomy protective against PD? No

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Parkinson's disease is the second most common neurodegenerative disorder after Alzheimer disease. It is characterized by the manifestation of motor symptoms, attributed to the degeneration of dopamine neurons in the pars compacta of substantia nigra and fibers in the striatum. The majority of drug treatments of Parkinson's disease focus on replacing and mimicking the effects of dopamine to improve symptoms. However, they cannot delay or stop the disease progression. Several experimental studies focused on the use of strategies to prevent or block the degeneration of dopamine neurons; however, even if they worked in animal models, they have aborted in Parkinsonian patients. One of the hypotheses for the ethiology of Parkinson's disease is that a neurotropic pathogen enters the brain by a nasal and/or gastric route by axonal transport through the vagal nerve. From experimental animal models, it has been shown that alpha synuclein forms can be transmitted to the brain from the gut and that vagotomy, which is a surgical procedure in which the vagus nerve is resected, can eliminate transport of pathological proteins from the gut to the central nervous system. Hence, Vagotomy can be a very interesting approach to prevent cell death and the development of Parkinson's disease. This hypothesis is supported by some epidemiologic studies showing that truncal vagotomy conferred a protective effect on subsequent Parkinson's disease risk, whereas superselective vagotomy was associated with a minor or no protective effect. However, the number of studies is limited and no causal effect has been demonstrated until now.