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Wajid Jawaid
Dow University of Health Sciences, Karachi

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MULTIPLE SCLEROSIS AND PARKINSON'S DISEASE: POLES APART OR CUT FROM THE SAME CLOTH?

Wajid jawaid[1]
[1]*Department of Neurology, Dow University of Health Sciences, Karachi*

Correspondence Author: Wajid Jawaid *Department of Neurology, Dow University of Health Sciences, Karachi* ***Email:*** *wajid.jawaid@outlook.com*

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Multiple sclerosis and Parkinson's disease are traditionally considered entirely separate disorders with distinctively different pathophysiology. Multiple sclerosis is a demyelinating disorder of the central nervous system, affecting the brain and spinal cord classically in a relapsing-remitting pattern; other less common patterns include primary-progressive and secondary-progressive progression of disease.[1] Parkinson's disease is a progressive neurodegenerative disorder characterized by dopamine deficiency caused by the loss of dopaminergic neurons in pars compacta of substantia nigra of midbrain; involvement of other areas within the nervous system has been recognized over time.[2,3] Therefore, both of these diseases do not seem to have any common ground. Is that really the case though?

The fact that neurodegeneration with axonal loss is part of multiple sclerosis spectrum is hardly a news. This is known for at least two decades and is substantiated by all the latest research.[4,5] More recently, evidence has started to add up regarding the role of inflammatory process in Parkinson's disease.[6] Pro-inflammatory mediators are now established to have a role in pathogenesis of Parkinson's disease.[7] This makes it clear that these two diseases are not as different as they were once thought to be. Researchers are usually smart people; wouldn't you expect them to note these facts and start looking for direct association between the two diseases?

A population-based study in Sweden attempted to find out increased risk of Parkinson's disease with a host of autoimmune disorders. They concluded that multiple sclerosis was one of the six autoimmune disorders with whom an increased risk of developing Parkinson's disease was present.[8] A nationwide study in Denmark, following more than 15,000 patients from Multiple Sclerosis Registry over a period of 35 years, did not find an increased risk of Parkinson's disease in multiple sclerosis patients.[9] Most recently, investigators from South Korea used data from their national health insurance service provider that reportedly covers 97% of their population. They conducted an extensive research of multiple sclerosis and neuromyelitis optica spectrum disorder from their database and compared them with matched controls. Their results showed increased risk of developing Parkinson's disease in both multiple sclerosis and neuromyelitis optica spectrum disorder, with the risk being particularly high in multiple sclerosis.

The textbooks of neurology have traditionally kept multiple sclerosis and Parkinson's disease in separate sections in their table of contents. Is this time to change the textbooks so as to combine these two in a single portion? Not yet. Is this time that these two disabling disorders are not considered as whistling entirely different tunes, and more research is devoted to find common grounds in terms of pathophysiology and treatment of both? You bet!

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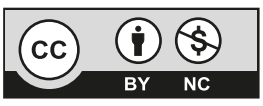

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