The conundrum of differentiating functional Parkinsonism and idiopathic Parkinson's disease: The pertinent role of DaTScan

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ABSTRACT

Introduction: Functional Parkinsonism (FP) is infrequently reported within functional neurological disorders (FNDs) and can severely impact patients. FP represents 1.7%–25% of all FMDs. Symptoms resemble those of Idiopathic Parkinson's Disease (IPD), leading to misdiagnoses. Early, accurate diagnosis is essential, aided by advanced neuroimaging modalities, ensuring appropriate management. Clinical assessment remains the main diagnostic tool in diagnosing FP, while structural imaging like MRI helps excludes organic disorders. Recent advanced in functional neuroimaging technique namely presynaptic dopaminergic transporter scan (DaTScan) is emerging to aid physicians in managing the patients. Here, we report a case of FP with normal MRI brain and DaTScan which tremendously improved with intensive neurorehabilitation. **Materials and Methods:** A 36-year-old woman with diabetes mellitus and asthma presented with a right-hand tremour post-COVID-19 recovery. Her symptoms worsened in just few months, including walking and speech difficulties. Fluctuating symptoms included wrist stiffness and bradykinetic finger tapping, but resolved with reinforcement, which is the opposite to parkinsonian rigidity. Initial treatment with Mirtazapine, Lorazepam and Madopar availed no improvement. **Results:** In the context of normal MRI brain with no clinical improvement with Madopar, patient was referred for ^{99m}Tc-TRODAT-1 SPECT (DaTScan), which was interpreted as normal, making the diagnosis of Parkinson's disease unlikely. After the establishment of FP as a diagnosis by exclusion of other causes, Madopar was ceased, and she underwent 6 weeks of intensive neurorehabilitation. Significant improvement in her daily activities and independence were seen after initiation of neurorehabilitation. **Conclusion:** FP can frequently mimic PD, thus clinical differentiation is crucial. Apart from structural neuroimaging, functional neuroimaging namely DaTScan, helps differentiate FP from PD by assessing dopamine deficiency in the striatum. Recognizing FP from PD is vital, influencing therapy and quality of life. Treatment of FP poses challenges; however, intensive neurorehabilitation shows promise. Hence, diagnostic challenges and fluctuating nature of psychogenic Parkinsonism, emphasises the importance of comprehensive evaluation using nuclear scans and tailored management approaches.