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Drug-Induced Parkinsonism as it Compares with Parkinson Disease

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Abstract

Drug-induced Parkinsonism is associated primarily with several psychiatric medicines, notably, anti-psychotic medications, lithium and more. The reversibility of the condition depends on the patient's capacity to give up the drug consumption, without major withdrawal effects. Drug-related Parkinsonism shares several features with Parkinson disease. These belong to one of two categories of signs and symptoms: they may have motor or non-motors characteristics. Both categories may present similar symptoms and show different traits, but the clinical featuresdiffer. Using imaging and a brain scan, diagnosis of Parkinson disease isachievable by [^{18}F]F-DOPA/PET-CT that is positive by contrast with that of normal individuals.No such contrasted figure has been displayed regarding drug-induced parkinsonism. It is assumed that the course of Parkinson disease should prevail over the drug-associated type. A case is hereby reported, that displays the fortuitous occurrence of a drug-induced parkinsonism which may be more consistent with Parkinson disease.

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Introduction

Parkinsonism has a wide disparity.It is a stronglyprogressive condition. Two of the variants have drawn our attention: the first was qualified by its strong association with psychotropic drugs. In theory, the medicine interruption should resolve the neurological condition. But is it conclusive? [1].

Drug-induced Parkinsonism exhibits some of the symptoms better known from PD. Among the motor symptoms, brady kinesia, with its slower movements, is due to an abnormal basal ganglia function; tremor; walking disturbances; drag-one's-feet; micrography; hypophonia; dysphagia of liquids; hypomimia; frozen facies; loss of stable posture [3].

Among the non-motor symptoms, one notes mild cognitive impairment (MCI); dementia; constivation; nocturnal hypersalivation; anosmia; urogenital impairment; Alzheimer disease [4, 5]. Anti-PD therapy – levodopa and apomorphine have persisted over the years. The urogenital dysfunction may be among the earliest symptoms of PD [6-12]. The treatment of drug-induced parkinsonism (DIP) is based essentially on the restriction of the psychotropic medication of concern. This depends on the capacity of the patient to do well in the absence of the given therapeutic agent. Therefore, the course of DIP may see more advantageous, as a progressive deterioration does not occur. However, the capacity to sustain an arrest of the antipsychotic drug is not homogenous. A rare incidence of PD, secondary to protracted parkinsonism, may be found especially in DIP.

Drug-associated Parkinsonism Versus PD

It is generally accepted that a symptom that characterizes any blend of PD, may also determine the features of DIP. The disease severity varies in both sorts. However, a general impression grants a more severe condition in PD. An attempt at an elucidation concernsPD being as a rule, a progressive neurodegenerative condition leading the elderly patient in anobligatory down hill course.

It is not unusual for the neurologist to declare that his patient suffers 'only' from parkinsonism, implying that his disease is milder than the PD considered at first. Furthermore, the patient is discharged with little or no instructions. "He will find a way to learn how to organize his life!". The issue is compounded by unusual cases. Here, the diagnosis might exhibit a more significant disparity between an apparently classical PD and a suggested Parkinsonian case.

A priori, the neurologist should find his way by using special imaging. The technique, called [18F] F-DOPA/PET-CT has been found to be highly sensitive in PD patients when compared with normal individuals. But we have no way to sort out the technique when comparing PD with Parkinsonism or more specifically, with drug-induced Parkinsonism [13,14].

The Report of a Case

This 58-year-oldman exhibited urogenital dysfunction, constipation, right hand tremor, nocturnal hypersalivation and long-standing anosmia (unrelated with COVID-19). He was found dragging his legs and complaining of dysphagia to liquids. He was later shown to have MCI [15-17]. The overall picture was

consistent with PD, but it could be consistent as well with Parkinsonism. However, a thorough exploration of the patient's medical history, further revealed that at the age of 29, he had been diagnosed with bipolar affective disorder, including a psychotic (manic) episode, treated with antipsychotic agents, with minimal doses, to the present day.

The last evolution suggests drug-induced parkinsonism. Impressed by the patient's long list of PD-like symptoms, the neurologist required a DOPA/PET-CT. The imaging resolution excluded the involvement of the basal ganglia by PD. But the technique is based on the comparison of the imaging of PD with normal individuals, but not of PD with patients with parkinsonism [18]. It seems that the control (comparison) is not optimal in this case!

Conclusions

The patient reported hereby is suspected of suffering from Parkinsonism, more probably of drug-induced Parkinsonism. The DOPA/PET-CT examination was negative. Based on this patient's history, a query is raised concerning the comparison between PD and drug-induced Parkinsonism, on which the literature has remained silent. It seems that we don't know how to handle a [18F] F-DOPA/PET-CT examination that evaluates a PD diagnosis against adrug-induced Parkinsonism singling out.

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