



## **A Case Report on Syndopa Induced Orthostatic Hypotension**

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### **Abstract**

Orthostatic hypotension is a decrease in systolic blood pressure above twenty five mmHg or diastolic pressure of more than ten mmHg, that occurs when moving from supine position to an upright position. Blood pressure fluctuations on Levodopa therapy are rarely reported. Patients with parkinsonism often have neuropsychiatric disorders, which influence Blood Pressure. Here we present the case of an 84 year old male patient with Parkinson's Disease, who had orthostatic hypotension. Fluctuations in blood pressure with the use of levodopa are more significant in patients with motor symptoms. Orthostatic lightheadedness can be alleviated only by reducing the dosage of levodopa.

### **Keywords**

Orthostatic hypotension, Levodopa, Blood pressure.

### **Introduction**

Parkinsonism is a chronic progressive

neurological movement disorder that affects pars compacta in substantia nigra neurons. Dopamine agonists can significantly reduce blood pressure, and precipitous changes can occur from the first dose<sup>[1]</sup>. We investigated the frequency and severity of acute changes in blood pressure readings while lying down and standing up. Orthostatic hypotension, a prolonged drop in blood pressure (BP) on achieving an upright posture, is a manifestation of heart sympathetic noradrenergic failure and is a common and challenging symptom affecting parkinson's disease patients, that can result in dizziness, syncope, and falls. It is due to Lewy body pathology. Certain medications and medical conditions such as hypovolemia and cardiac pump failure can also result in orthostatic hypotension.<sup>[2,5]</sup> The condition is often unrecognised or undertreated because it can increase fall risk, negatively affects the quality of life of patient so, timely diagnosis and management are critical<sup>[2]</sup>.

Current therapeutic strategies include non-pharmacological and pharmacological measures aimed to increase blood volume. There is insufficient evidence to recommend any specific treatment. Therefore, it should be individualised for the individual patient<sup>[5]</sup>.

### **Case Report**

Hereby we refer a case of 84 year old male patient presented with complaints of dizziness with difficulty in getting up from bed and swaying to one side while walking. He is a known case of Coronary artery disease, Anterior wall myocardial infarction (evolved), Heart failure with reduced ejection fraction (EF-30%), Paroxysmal atrial fibrillation, Meniere's disease, post covid, and recently developed Parkinsonism- on Syndopa plus (carbidopa and levodopa) one tablet three times a day. On examination his blood pressure was found to be 90/60mmHg. His lab investigations showed mild anaemia, thrombocytopenia and mild hyponatremia. He was admitted and treated with IV fluids, Syndopa, dual antiplatelets, statins, Lorazepam and other supportive measures. In view of Hypotension, his antihypertensive agents were held. Still he had an episode of dizziness, agitation, hallucination and dyskinesia. Psychiatry and Neurology consultation were sought, he was diagnosed with Rapid eye movement (REM) sleep disorder and advised to continue Clonazepam, Cinnarazine, Carvidelol and to titrate the dose of Syndopa plus to half tablet three times a day. He is now symptomatically better, hemodynamically stable, no further episodes of dizziness, hallucination or agitation and being discharged.

### **Discussion**

Orthostatic hypotension is an unrare

manifestation in patients with Parkinson's disease taking a dopamine agonist.<sup>[5]</sup> Levodopa is one of the factors that can affect blood pressure. Levodopa reduces supine BP through a central mechanism, which is more significant in patients who is on levodopa treatment and have motor symptom fluctuations. A large dose of levodopa can induce orthostatic hypotension through a peripheral mechanism. Autonomic nervous system disorder, which is common in parkinsonism can also cause orthostatic hypotension.<sup>[3]</sup>

The most frequent symptoms of the condition include postural lightheadedness or dizziness, presyncope, and falls (occurring with or without loss of consciousness)<sup>[2]</sup>. But our patient is presented with complaints of dizziness with difficulty in getting up from bed and swaying to one side while walking.

According to the study conducted by Kujawa K et al reported that the treatment of OH in PD includes non-pharmacological as well as pharmacological measures to stabilise blood pressure. Nonpharmacological therapies include eliminating or decreasing medications that may cause orthostatic hypotension<sup>[1]</sup> which is similar to our study.

### **Conclusion**

In patients with Parkinsonism, fluctuations in blood pressure affect quality of life and can be life threatening. The mechanism of BP fluctuation is complex, so the reason for the fluctuation should be carefully analysed and measures to control BP fluctuations should be carried out. Dopamine agonists can significantly reduce blood pressure. Knowledge of acute blood pressure responses can be beneficial when making decisions concerning agonist titration schedules in clinical practice.

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## Abbreviations

1. BP - Blood pressure
2. OH - Orthostatic hypotension
3. PD - Parkinson's Disease
4. REM - Rapid eye movement