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Letters to the Editor

## Care of Parkinson's disease (PD) patients in times of covid-19 pandemic



## Keywords:

Parkinson disease  
 Covid-19  
 Neuroleptic Malignant Syndrome  
 Levodopa  
 Apomorphine pump

Dear editor

Sir, Recently few articles have been published on covid-19 cure with co-morbidities and associated neurological disorder but we want to draw your kind attention towards the continuous less attentiveness towards Parkinson's disease (PD) patients [1]. There have been few cases reported which showed PD can occur even after covid-19 infection [2–5]. PD patients are usually elderly and having multiple co-morbidities like dementia, cerebro-vascular diseases and are at a significant risk of severe covid-19 infection and thus need special attention in home or in hospital. Worsening of PD symptoms occurred in the presence of covid-19 infection probably due to direct neuro-invasion of sars-cov 2 infection in central nervous system causing damage to nigrostriatal dopamine system associated with pharmacodynamic changes and therefore needs additional Levodopa dose [6,7]. Some non-motor symptoms of PD include anosmia, fatigue, and these non-motor symptoms may be delayed to covid-19 confirmation [8]. Home quarantine PD patients may have some problems due to self medication (over-the-counter drug) and drug interaction [9]. Dementia, autonomic symptoms like constipation and urinary problem, sexual dysfunction, orthostatic hypotension may be increased (deterioration) due to antihistamines like diphenhydramine [9]. This deterioration of symptoms probably due to systemic inflammation. Patients with MAO-B inhibitors like Rasagiline, Selegiline, Safinamide may cause drug interaction with drugs containing pseudoephedrine, phenylpropanolamine [10]. MAO-B inhibitors with dexamethasone are not allowed due to the possibility of serotonergic syndrome [11]. MAO-B inhibitors with decongestants may lead to severe hypertension [12]. Advance PD with pulmonary restriction may be due to Levodopa dose (low or excessive) may result in pulmonary decompensation and Pneumonia (respiratory muscle bradykinesia, rigidity, dystonia) which may cause difficulty in intubation, swallowing difficulty may result in aspiration. Some inappropriate omission and commission of anti-PD drug or stress may result in Parkinsonism hyperpyrexia syndrome (Neuroleptic

Malignant Syndrome). Rescue drugs like subcutaneous Apomorphine, Apomorphine pump, Levodopa-Carbidopa intestinal gel, transdermal rotigotine patch are not easily available in ICU and hence neurologists are essential for PD patient with covid-19 infection [13]. Amantadine is used as an add-on therapy in this circumstance because it has anti-viral property which block M2 protein receptor and can also block lysosomal gene expression protein [14].

This Covid-19 pandemic transforms the lives of individuals around the globe. So if PD patients are infected there may be many concerns like worsening of symptoms, issue with their self medication and ICU challenges. The role of Amantadine is a very interesting observation and its side effects need further research. Thus, PD patients who are diagnosed with covid-19 infection should need meticulous management.

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