

## CASE REPORT

# Parkinson Disease Patient with Wheezing Manifestations: A Case Report

Mimi Zhou\* Siyuan Jing Yue Chen

No.2 Department of Geriatrics, Hangzhou Wenzhong Hospital, Hangzhou 310000, China

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### ABSTRACT

The dosing of anti-Parkinson drugs is considered as the optimal control of the symptoms of PD, and increasing the dose of drugs is a common method to treat the aggravate state of PD. However, this is a case of PD elderly patient who had nephritic syndrome, with an increase in the dose, the symptoms did not get improved, but a series of other adverse effects appeared.

## 1. Introduction

This is a case of Parkinson disease occurred in a 80-year-old male who had nephritic syndrome. With an increase in the dose of anti-Parkinson drugs (Madopar® 3/4 tablet, four times per day; SinemetCR® 1/2 tablet, one time per night; Entacapone 1/2 tablet, four times per day) due to the degression in efficacy, “Dopamine receptor excitement”—wheezing symptoms happened, which was relieved by the down-regulation in the dose of relevant drugs (Madopar® 3/4tablet, three times per day; DC SinemetCR® and Entacapone) to confirm the speculation of overdose. It reminds us that the seniors with PD is more sensitive to anti-Parkinson drugs on the basis of chronic kidney disease, and the highly personalized medications (such as Madopar®) are needed to relieve the relevant

symptoms on their renal function.

## 2. Case Report

A 80-year-old male with 6-year history of Parkinson's disease, the patient had previously received Madopar® therapy, but he experienced wearing-off time over. Based on both the physician's and the patient's assessment, the treatment was switched to 3/4 Madopar® ( levodopa/benserazide 200/50 mg ) tablet four times per day, 1/2 Sinemet CR® (CR-carbidopa/ levodopa 50/200 mg) tablet one time per night, and entacapone 100 mg four times per day, with the aim of improving the curative effect. However, the patient has suffered from wheezing at rest for the last two years, the wheezing occurred 3 times a day, and each lasted for 30-60 minutes. No one knew why did the phenomenon happen so often? The omnibus symptoms

\*Corresponding Author:

Mimi Zhou,

No.2 Department of Geriatrics, Hangzhou Wenzhong Hospital, Hangzhou 310000, China;

Email: 1473454439@qq.com

consisted of wheezing, high blood pressure, elevated heart rate, sweating with facies dolorosa, but he knew what was happening the whole time.

Meanwhile, the patient has suffered from nephritic syndrome, a recent test of renal function showed that the creatinine clearance rate decreased (70.8 ml /min), and the urine microalbumin increased (79.4mg/L). Elevated urine  $\beta_2$  microglobulin (1571 $\mu$ g/L), suggesting poor renal function. The other examinations showed that coronary CTA and UCG were generally normal. Therefore, it was considered that the excretion of the drugs he took before was remarkably reduced, leading to the accumulation of the anti-Parkinson drugs in his brain, so this dose causes the omnibus symptoms mentioned above. As a result, the doctor in charge gradually reduced the patient's anti-Parkinson medication to only 3/4 Madopar® tablet three times per day, and the omnibus symptoms described previously (wheezing, high blood pressure, elevated heart rate, sweating) were subsequently relieved.

### 3. Discussion

Generally speaking, the efficacy of anti-Parkinson drugs on a Parkinson individual, such as Madopar®, would wear off with the progress of Parkinson disease, and the agreement between physicians and patients might be easily reached to compensate the “loss”, by means of increasing one-single dose or adding other kinds of anti-Parkinson drugs to it, to restore the previous effectiveness. Being worth mentioning, the renal function involving drug excretion in senile patients with Parkinson disease is also declined stepwise over the course due to aging<sup>[1]</sup>. In this case, the intention of elevation in dose to cover the “gap” somehow evolved into “overaction” of anti-Parkinson drugs in his brain, as a result, the omnibus symptoms of Dopamine-Receptor excitement (wheezing symptoms) occurred. The speculation mentioned above was confirmed by down-regulating the daily dose of relevant drugs (such as Madopar®) to relieve the wheezing symptoms, suggesting that we should pay more attention to this phenomenon of overdose from anti-Parkinson drugs in a senile PD patient with renal insufficiency.

Levodopa-induced dyskinesias (LID) are abnormal involuntary movements that develop progressively with repeated dopamine replacement therapy in Parkinson's disease<sup>[2]</sup>. The pathophysiology of LID comprises many functionally-related abnormalities in neurotransmission which lead to abnormalities in the rate, pattern of breathing abnormality within and outside the basal ganglia<sup>[3]</sup>. Restrictive breathing abnormalities have been reported in 28% to 94% of people living with Parkinson's disease. The underlying mechanisms of this pattern of breathing abnormality in PD are not fully understood so far<sup>[4]</sup>, which kept asking us to remember that the correlation between the patient's own personal condition and the appropriate amount of the drug couldn't be ignored.

### 4. Conclusions

Our speculation mentioned above was a bit different from those reviewed here, that is, the seniors with PD is more sensitive to anti-Parkinson drugs on the basis of renal degeneration and the highly personalized medications (such as Madopar®) are needed to relieve the relevant symptoms on their renal function; suggesting that geriatrician should pay more attention to the overaction of anti-Parkinson drugs in a senile PD patient with renal insufficiency.

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