Research Paper

Volume : 5 | Issue : 5 | May 2016 • ISSN No 2277 - 8179 | IF : 3.508 | IC Value : 69.48

A Study on Drug Adjustment for Psychosis in Advanced Parkinson's Disease

Medical Science

KEYWORDS : Parkinsonism, BPRS, Psychosis

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ABSTRACT

Parkinson's disease is the second commonest neurodegenerative disease in the world exceeded only by Alzheimer's disease.It is characterized by resting tremors, bradykinesia and rigidity. In the advanced Parkinson's disease(PD) psychosis is a chief non motor complaint and drug adjustment is crucial to maintain maximum benefits regarding both motor and non motor features.

INTRODUCTION: Parkinson's disease is the second commonest neurodegenerative disease in the world exceeded only by Alzheimer's disease.The cardinal features of Parkinson's disease include resting tremor, bradykinesia, rigidity and gait impairment. Additional features include freezing of gait, masked facies, postural instability, autonomic disturbances, sensory alterations, mood disorders, sleep dysfunction, cognitive dysfunction and dementia.

In the context of Parkinson's disease (PD), the term psychosis usually refers to a mental state characterized by hallucinations and/or delusions, occurring with a clear sensorium and a chronic course. Among the non-motor features of Parkinson's disease (PD), psychotic symptoms are frequent, ranging from 20 to 30% of patients. Levodopa and other dopaminergic drugs used in the treatment of PD causes psychotic symptoms in advanced stages and poses a burden on the patients and the care givers.

The management of advanced Parkinson's disease is indeed a difficult task and we have to strike a balance to ensure maximum antiparkinsonian benefit with a minimum psychotic feature. In this study we intend to optimise the doses of drugs to maintain the benefits to maximum.

AIMS AND OBJECTIVES:

To evaluate the response of drug adjustment on psychotic manifestations in patients of advanced Parkinson's disease who are on multiple drugs.

METHODS AND RESULTS:

The study was done in the Medicine Department of JLNMC, Bhagalpur.50 patients with advanced Parkinson's disease (**Modified Hoehn and Yahr Scale score 4 or 5**) was enrolled in the study. Diagnosis was done clinically and proper history with special emphasis on psychiatric illnesses were taken. For evaluation of Psychiatric manifestations we used the Brief Psychiatric Rating Scale (BPRS).

Those patients who were having psychiatric illness prior to the onset of Parkinson's disease were excluded from the study.

After informed consent from all the patients, BPRS Scoring was done in the patients. All the patients enrolled in the study were on multiple drugs including levodopa, Dopamine agonists, MAO-B Inhibitors and anticholinergics. Out of the 50 patients, 38 patients had a BPRS Score of 70-80 while 12 patients had a BPRS Score of 40-50. Our aim was to adjust the drugs in such a way as to reduce the BPRS score to >50 %.

We added Quetiapine, an anti psychotic drug with minimum extrapyramidal side effects in all the patients. Then these patients were evaluated again at 2 weeks interval.

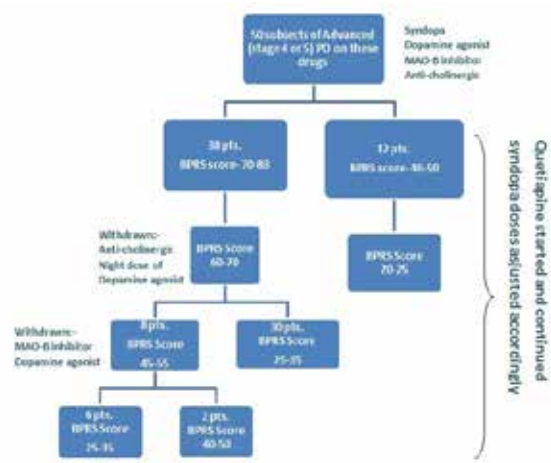

Fig. Drug adjustment in Advanced Parkinsonism

Those patients having a score of 40-50 responded dramatically and their BPRS Score came down to 20-30.Rest 38 patients had also a reduction of the BPRS score (60-70). In these patients we removed anticholinergic drugs and the night time dose of Dopamine agonist & these patients were again evaluated after 2 weeks. In this visit it was seen that 30 patients out of the 38 had a significant improvement & the BPRS Score had gone down to 25-35(>50 % of the base score).Rest 8 patients still had a BPRS score of 45-55. In those patients MAO-B Inhibitors and day time Dopamine agonists were also withdrawn and the dose of levodopa was adjusted. These 8 patients were again called after 2 weeks and it was seen that 6 patients responded appropriately as regards there psychotic features are concerned & the BPRS Score was in the range of 25-35(>50% reduction of the base score). However 2 patients still had a BPRS Score of 40-50 and these patients had not responded properly to the drug management.

CONCLUSION:

- Psychosis/cognitive dysfunction pose a great challenge both for the patient and the care givers.
- Levodopa and other dopaminergic drugs can cause psychosis and should be stopped or adjusted to strike a balance between antiparkinsonian benefits and psychotic features.
- Drugs should be discontinued in the following sequence as we have done in this study.

Anticholinergics >Amantadine >Dopamine agonist> COMT Inhibitors> MAO-B inhibitors> Levodopa

In addition Quetiapine is to be added and levodopa doses are to be adjusted to get maximum benefits.

The management of end stage PD challenges clinicians, patients and families in many ways. The main goal should be to maintain acceptable levels of functioning through careful balance not limited to drug management, but including strong and supportive services.

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