Original Article

Frequency of Depressive Symptoms in Patients of Parkinson's Disease

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Background: To determine the frequency of depressive symptoms in patients of Parkinson's disease (PD).
Material and Methods: It was an observational study conducted in out-door and in-door departments of the Neurology ward, King Edward Medical University/Mayo Hospital, Lahore from April 2003 to November 2003. 100 patients of Parkinson's disease (diagnosed by consultant neurologists) were registered and after fulfilling all the inclusion and exclusion criteria, Hospital Anxiety and Depression Scale (HADS) was applied to see the depressive symptoms in patients of PD.
Results: Out of 100 patients, 81 (81%) patients were depressed. All the patients with bradykinesia were depressed. Only 07 depressed patients were taking antidepressants.
Conclusion: Depression can be viewed as a common clinical feature of PD and goes unrecognized in majority of the patients of PD. Depression and PD are not coexisting diseases but probably biochemical identical diseases. Bradykinesia can be a strong predictor for depression in patients of PD. Majority of PD patients with depression were not being treated for depression.
Key Words: Frequency, Depression, PD, HADS.

Introduction

Parkinson's disease is a disabling neurodegenerative condition commonly complicated by the coexistence of co-morbid depression. Depression is the most frequent mental disorder in patients with PD and prevalence rate of depression in this patient group has been reported between 25 to 40%.[1,2]

Possible risk factors for depression in PD are female sex, younger age at onset of PD, prominence of right sided signs, bradykinesia and gait disturbance.[3,4]

In recent studies, the risk factors for depression in patients with PD remain controversial.[5] It is very important to diagnose depression because of its potential impact on functional disability and quality of life.

Early treatment of depression can prevent rapid progression of the disease and faster decline in cognitive status and activities of daily living.[6] Some of the recent studies suggest that major depression and PD may coexist and dysthymic disorder may be an essential feature in PD.[7]

It can be difficult to diagnose because many of the symptoms typically associated with depression e.g. sleep difficulty and fatigue, can be seen in non-depressed patients with PD and signs thought to represent depression e.g. lack of facial expression and slowness, can be produced by PD itself. Apathy, although a possible feature of depression, can exist apart from depression and is often associated with cognitive impairment. Therefore, when evaluating patients with PD for possible depression, one should concentrate on the psychological or ideational aspects of the illness. One must determine whether the patient feels sad or hopeless or has a marked inability to enjoy life.[8]

Once it has been determined that the patient has clinically significant depressive symptoms, it is important to let him or her know that depression is an aspect of PD that requires treatment. The idea of adding antidepressant medication and possibility of psychotherapy should be introduced.

Aims and Objectives

It was to determine the frequency of depressive symptoms in patients of PD presenting in out-patients and in-patients departments of Neurology unit of the King Edward Medical University/Mayo Hospital, Lahore.

Material and Methods

This hospital based descriptive study was conducted in the out-patients and in-patients departments of Neurology, KEMU/MHL. The study was started with the entry of first patient on 28-04-03 and extended over about 07 months period. The patients of PD were selected through a

non-random, convenience sampling procedure. All the patients were subjected to detailed history and clinical examination and mini mental state examination (MMSE) to fulfil the selection criteria. The Urdu version of Hospital Anxiety and Depression scale (HADS) was administered to detect the symptoms of depression.[9]

Inclusion Criteria

The patients were selected for the study who met the following criteria.

1. Clinically diagnosed cases of idiopathic PD. (Diagnosis was made by consultant Neurologist)
2. Both sexes were included.

Exclusion Criteria

The patients were excluded if they had the following:

1. Patients with past history of depression.
2. Patients with unsupportive family or living alone.
3. Patients with death of spouse within the past 06 months.
4. Patients who presented with an advanced, severe and unstable disease other than PD like DM, HTN, IHD, CLD, CRF and respiratory failure.
5. Patients who presented with symptoms and signs of systemic medical conditions that could give rise to depressive symptoms like hypothyroidism, Cushing's syndrome and hyperparathyroidism.
6. Patients taking drugs other than anti-parkinsonian drugs that could give rise to depression like corticosteroids, estrogen, progesterone (OCPs and HRT), reserpine, clonidine, vincristine and vinblastine etc.
7. Patients with MMSE score of less than 26.
8. Patients with disability due to advanced PD (stage 4 & 5)

Data Collection Procedure

General data and information about PD were collected on a pre-designed questionnaire. To fulfil all the inclusion and exclusion criteria, questions regarding symptoms of the different diseases that were mentioned in the exclusion criteria were asked.
To look for any signs of the diseases as mentioned in exclusion criteria, clinical examination was performed.
MMSE was administered to rule out dementia. Finally, questions were asked to detect symptoms of anxiety and depression by using Urdu version of HADS. In HADS, odd questions were for anxiety symptoms and even for depressive symptoms.
Each statement had four possible answers with score of 0 to 3. Then score of even numbers was added to determine the frequency of depression.

Results

During the study period, 127 patients were evaluated out of which 100 patients were registered. Rest of patients were excluded according to exclusion criteria.

Distribution of sex:

Out of these hundred patients, 79 (79%) patients were male and 21 (21%) patients were female with male to female ratio of 3.7:1.

Distribution of age:

The age of the patients ranged from 32 years to 73 years with mean age of 54.98 years.

The age range of males was from 32 to 73 years with mean age of 54.86 years and age range of female patients was 49 to 64 years with mean age of 55.42 years. 62 (62%) patients belonged to age group of 51 to 60 years and male predominance was observed.

Duration of PD:

The duration of PD ranged from minimum of 03 months to maximum of 07 years

Stages of PD:

Out of hundred patients, 39 (39%) patients were in Hoehn and Yahr stage 1, 42 (42%) patients in stage 2, and 19 (19%) patients were in stage 3.

Patients already on antidepressants:

Eight patients (8%) were already on antidepressants.

First ever side involved:

At the start of disease, 92 (92%) patients were having right sided involvement and 8 (8%) patients with left sided involvement.

First ever symptoms involved:

At the start of disease, 69 (69%) patients presented with tremors, 16 (16%) patients with rigidity and 15 (15%) patients with bradykinesia.

HADS score:

81 (81%) patients had HADS score of more than 07 and were labeled as depressed.

Discussion

Depression in PD is a common complication, with a major impact on quality of life. Failure to recognize and treat depression can lead to premature and inappropriate discontinuation of anti-parkinsonian therapy. Depression in the PD patients may be associated with more rapid deterioration in cognitive and motor functions.

The main objective of this study was to determine the frequency of depressive symptoms in patients with PD which is high (81%) as compared to highly variable range seen in other international studies. [1, 10, 11]

The reported occurrence of depression in PD varies widely from 20% to 90% of patients. This huge variation is probably explained on the basis of difference in criteria of depression utilized and the study population examined.

In the most comprehensive study to date, Brown and MacCarthy[12] used a standardized psychiatric interview designed to assess psychiatric disturbances in the general population to provide a detailed description of psychiatry symptomatology in 40 patients with PD. 70% of the patients exhibited at least one psychiatric syndrome, the most common condition being depression and anxiety.

We observed from the data that in comparison with the classical symptoms of PD like tremors (69%), rigidity (16%) and bradykinesia (15%), depression was present in 81 % of the patients with PD giving an impression that depression is more common than the classical symptoms.

On the biochemical basis, there is involvement of same mechanism of dopamine depletion in generating depression which produces symptoms of PD. Schurman AG[13] observed that a strong positive association was found between depression and subsequent incidence of PD. [14-17]

Risk factors for developing depression in PD include right sided parkinsonism, akinesia, increased severity and disability, anxiety and psychosis. Onset of parkinsonism at a younger age, female gender and use of Levodopa are arguable risk factors. [18]

In another study Mayberg [19] concluded that most of these risk factors for depression make psychological sense. The worse the disability is, the more deleterious effects it has on one's life and therefore the more intense the depression will be.

All the bradykinesic patients were depressed as compared to other classical symptoms.

The most striking observation in our study is that only 8% of the depressed patients were getting antidepressants, reflecting that depression in PD is under diagnosed or under treated. Therefore, all the patients of PD should be screened carefully for depression.

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